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the skill subjects in enterprise and
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THE UNIVERSITY OF ALBERTA

AN EVALUATION OF PUPIL PROGRESS IN THE SKILL SUBJECTS
IN ENTERPRISE AND CONVENTIONAL SCHOOLS

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS

DEPARTMENT OF EDUCATION

BY
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EDMONTON, ALBERTA

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CHAPTER I

THE SETTING OF THE PROBLEM

The first curriculum used in the schools of the Province of Alberta was drafted in 1902 by Dr. D. J. Goggin, Principal of the Regina Normal School, and a member of the Council of Public Instruction of the North-West Territories. In 1912 the elementary school programme was rewritten by a committee under the chairmanship of Dr. H. M. Tory, first President of the University of Alberta.¹ Not until 1922 was there another decennial revision. In that year a committee under the direction of Mr. G. F. McNally, Supervisor of Schools, drafted the programme which was to direct the activities of pupils and teachers until the year 1936.

For some years prior to 1934 certain Alberta educationists,--teachers, Normal School instructors, and inspectors,--were expressing their conviction that Alberta was not keeping up with the procession of educational progress, that pupils were not receiving as effective an education as the schools were capable of providing. There began to be an insistent demand that the formal routine of the classroom, with its familiar formal seating arrangement,

¹ Dr. H. C. Newland, in Proceedings of the Canadian Education Association (17th Convention, 1936), Page 67 et seq.

and formal lessons, which featured the teacher rather than the pupil, be replaced by a classroom environment wherein the pupil played the predominant role, while the teacher retired into the background as director and guide.

Teaching procedure, as preached in the Normal Schools and practiced faithfully by all graduates, had been dominated for more than a decade by the Thorndikian concept of the 'connection bond'. According to this interpretation of the learning process, if the necessary bonds for each probable life situation could be isolated, then, by a process of conditioning, the proper S-R sequence could be established. In the conventional school subjects all the desirable bonds had been isolated by industrious and ingenious research specialists, tabulated and set forth for the pupils to master by elaborately designed drill procedures. The proper mastery of such material had become the pupil's open-sesame to the next phase of his school experience.

Thus a direct premium had been placed upon the ability of the pupil to establish the necessary bonds with respect to specific items of knowledge. As each group of subject-matter specialists isolated its 'essential' knowledges and skills, it became necessary to distribute the items more or less uniformly throughout the grades. Even tiny tots in Grade I, were, at one time, expected to give rapid fire responses to addition and subtraction facts involving sums and differences up to one hundred. That such quantities were

this reconstruction of experience. Thus:

"The central feature of learning, from this point of view, is reconstruction, synthesis, building up, and not merely a process of analysis. Its chief reliance, accordingly is on the cultivation of this power of construction, and not on habit or drill. Thorndike's laws of learning---the law of use, the law of disuse, and the law of effect,---are laws of habit formation and nothing more. If we give a place to 'insight' in the learning process, these laws become of subordinate importance. ¹ The core of the learning process is not habit, but intelligence.

During this battle of the psychologists classroom teachers revelled in eclecticism,--they shopped all over the bargain basement, picking up ideas and theories which they adapted to fit their special educational needs. As they had themselves been brought up on a concentrated diet of content material assimilated through prolonged and painful drill, teachers became devotees of Thorndike's theories of the nature of the learning process; but, strangely enough, coincident with this worship of the drill disciplines there was evoked a protest against a classroom social order which converted live, boisterous, flesh and blood children into childish automatons. Such apostles of the freedom of childhood from adult domination sought comfort and encouragement in the teachings of Dewey. From being outcasts from the educational fold as 'faddists' Dewey and his followers began, about 1920, to be heralded as the prophets of a new era. After a generation of vicissitudes the ideas and ideals first promulgated in 1896 in the University Elementary School in Chicago, and fostered in Horace Mann School,

¹ Bode, B.H. Conflicting Psychologies of Learning P.231. D.C. Heath & Co., New York.

unrelated to the experience of primary pupils was a circumstance largely ignored. It was argued that in the near future the child would have occasion to use these items of information and would then have the knowledge and skill at his command. Much this same ideal of 'preparation for living' dominated all instructional procedure within the elementary classroom.

But the child as an individual was not being ignored by all schoolmen and psychologists. The atomists might insist that the laws which were relevant for the organic sciences had their counterpart in the inorganic, that the process of analysis which had led to important discoveries in the realms of physics and chemistry would reveal equally valid explanations of human relationships, but a school of equally eminent authorities was not prepared to agree that mechanism was a sufficient explanation of all phases of human behavior. McDougall contended that, "We stand to gain no advantage by assuming that men are robots, mere pieces of machinery." Rather, he professed the profound conviction that we must, "Cheerfully go on assuming that men are what they seem to be, namely, purposive, intelligent agents, striving with some success to improve themselves and the conditions of their life in this strange world".¹ Here McDougall was in direct opposition to such declarations of faith as:

¹
Wm. McDougall, "Men or Robots", in Psychologies of 1925, Clark University Press, P. 305.

"All human conduct reduces to nothing but electron-proton groupings and motions"; and, "We say nothing of reasoning since we do not admit this as a genuine type of human behavior except as a special form of language habit"; and finally, "So far in his objective study of man no behaviorist has observed anything that he can call consciousness, sensation, perception, imagery or will.....he has therefore reached the conclusion that all such terms can be dropped out of the description of man's activity." All was apparently not well within the tents of the psychologists.

To McDougall and his followers, mechanism, with its dependence on the 'connection bond', as the final explanation of all forms of human behavior left much to be desired. The S-R relationship might serve to explain, or better, describe the reaction of animals within a maze or puzzle box, where the total situation was obscured, and it might serve adequately as a description of the apparent reaction of people in similar situations, where a 'trial and error' procedure was the only possible one to effect a solution. But it did not explain the response of a Romeo to his Juliet in the balcony. That was a situation far too involved for even the most ingeniously constructed Robot to manoeuvre through without

¹ Weiss, A.P. A Theoretical Basis of Human Behavior. Columbus, Ohio, R. G. Adams, P. 51

² Watson, J.B. Behavior, New York, Henry Holt and Co. P.319

³ Ibid, in article "Behaviorism", Encyclopaedia Britannica 13th edition, Vol. III, P. 328.

⁴ Bode, B.H. Conflicting Psychologies of Learning P.179 Heath & Co., New York.

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coming to disaster, even if one ignores the probable reaction of Juliet to the appearance of such a mechanical effigy on the edge of her balcony. Evidently the response to a stimulus is influenced by the environment, by the total situation. Sounds, for example, are modified by other sounds occurring simultaneously. Thus:

"Membership in a clang alters the phenomenal character of the partial tones. We do not hear the partials as loudly as we would if they were separate and distinct tones. In spite of the identical physical conditions, a sound is less intensive when it is a member of a clang than when it exists independently. A phenomenal configuration, such as a clang, is both something more than and something different from the sum of its ingredients; for these ingredients are no longer separate entities, but members of a 'whole', and being such ¹ they lose some, indeed a great deal, of their individuality."

All that the earlier critics of mechanism were able to offer of a constructive nature was neither enlightening nor comforting. But with the growth of Gestalt psychology, and its evolution into the present organismic concept of the human personality, there was furnished an explanation of purposive behavior which avoided the Scylla of 'mental states' and the Charybdis of the 'connection bond'. This later school of psychologists accomplished this tour de force by "ascribing to objects certain changes which maintain a point-for-point correspondence with the changes that take place in bodily reactions."² The 'insight' which follows is the sequel to

¹ Ogden, R.M. Psychology and Education, P.150, Harcourt, Brace & co., New York.

² Koffka, K. The Growth of the Mind, P.131, Harcourt, Brace & Co., New York.

Winnetka, and numerous private schools, finally began to permeate and transform the educational systems of the entire continent.

"The philosophy of Dewey is based on the theory that the child is a highly complicated, interrelated organism, and that he does not exist in a vacuum. Instead, he lives and functions in a total environment which is made up of the people and things about him and also the emotional, physical and other conditions within himself which make him what he is at a given moment, and which, changing, make him a very different individual at successive times".¹

Stripped of all its psychological mandarin the doctrine of Dewey implies that 'the child learns by doing', and 'the school is life'. What the child does he does as a living entity. What he does influences him as a living being, here and now. He is living as he is doing, and the 'how' he does his tasks is even more significant than the nature of the tasks. If in the tasks he sees a purpose which to him is of significant value, he will apply himself industriously and capably, concentrating all his latent ability upon the solution of any problems which may supervene. The end product will be valued because of its significance to the pupil as an immediate achievement of a purpose or goal. The end is not the preparation for leaping certain hurdles in June, nor is it even a part of his 'preparation for life'. Unconsciously, however, the pupil through active, alert participation in the solving of his problem exhibits and develops those qualities of initiative, resourcefulness, creativeness and industry which, fostered to maturity, are the hallmarks of the man who has made a successful

1

McGaughy, J.R. An Evaluation of the Elementary School, P.141, Bobbs Merrill Co., New York.

'preparation for life'. What Dewey and his followers did was to shift the basis of the curriculum from text-book subject matter as an end, to subject matter as a means to an end.¹

Or in the words of Bode: "What is of primary importance is the development of habits as attitudes, with the acquisition of skills as incidental thereto."²

If, then, the acquisition of information per se, and the development of a skill are to be subordinated to a more significant purpose, what are some of the purposes of the modern elementary school? 'The Teachers Guide to Child Development in the Intermediate Grades' probably has as acceptable an answer to this question as will be found anywhere in educational literature:

"It is the purpose of the elementary school to help each child:

1. To establish normal mental attitudes and controlled emotional reactions, and to develop a sound body.
2. To develop an understanding of social relationships and a willingness to participate in social activities in ways conducive to the progress of society.
3. To develop individual talents and abilities as completely as possible.
4. To cultivate habits of analytical thinking.
5. To acquire command of the common knowledges and skills essential to effective living.
6. To develop appreciation for, and desire to seek, beauty in its many manifestations."³

The pronouncement above is of the vintage of 1936. It will be of interest to contrast it with the declaration of

¹
Ruediger, W.C. Teaching Procedures, P.289, Houghton Mifflin Co., New York.

²
Bode, B.H. Conflicting Psychologies of Learning, P.272, D.C. Heath Co., New York.

³
Teachers' Guide to Child Development in the Intermediate Grades, P.3, California State Department of Education, Sacramento, Cal.

faith of the committee which drafted the Alberta Programme in 1922:

"It is the function of the curriculum to put children in possession of their great intellectual heritage. This can be best interpreted to the child when it is regarded as a summary of the solutions of the various problems which the race has devised up to the present moment. It must, however, do more than this. Not only must the child be made acquainted with the steps by which we have won our present position, but he must be assisted to an intelligent participation in the various activities inevitable to our present social organization. Selection of desirable experiences must be made from all the possible activities which present themselves in the everyday life of the child. Thus, many types of experience valuable in themselves must be passed by, simply because there are others more universally desirable. Conscious curriculum-making implies the intentional selection of material and activities which, together, will result in desirable changes in behavior and in the development of wholesome attitudes and ideals. Such is the point of view from which the course has been written."¹

In a recent study of elementary school curriculum problems Miss Milligan has classified the theories concerning learning under three headings:

- "A. Learning as training: This position considers learning as training the mind and developing the powers of its faculties.
- B. Learning as the development of ideas through the assimilation of information: In this position the mastery of information is stressed. Intellectual learning receives the major emphasis. Little attention is given to the social, emotional, and other learnings.
- C. Learning as a process affecting the human organism in its Total experiences: In this position learning is a continuing process of enrichment of meanings and accompanying aspects. It involves a situation, a choice of means to meet the situation, and a change in the learner as the situation is met. This change means a cross section of all the aspects of the learner's experience and gives to its social, emotional, and other aspects equal emphasis with the intellectual".²

¹ Programme of Studies for the Elementary Schools of Alberta (1929 ed.) P.31, Department of Education, Edmonton, Alberta.

² Quoted from McGaughy, J.R. An Evaluation of the Elementary School, P.136-7, Bobbs Merrill Co., New York.

Obviously the Alberta curriculum of 1922 was written in the spirit of, "Learning as the development of ideas through the assimilation of information". But by 1934 the ideal of, "Learning as a process affecting the human organism in its total experiences" had begun to influence the thinking of educators throughout Alberta. So effective was this infiltration of new ideas that the Department of Education was moved to appoint a commission to investigate conditions in the schools of the Province with a view to determining to what extent the curriculum might be modernized without scrapping the existing physical equipment, buildings, equipment, etc.

This Departmental committee consisted of Dr. Donald Dickie, Provincial Normal School, Camrose, Miss Olive Fisher, Provincial Normal School, Calgary, and Mr. W. E. Hay, Inspector of Schools, Stettler. During the session of 1934-35 this committee visited typical rural and urban schools in many parts of the Province. It interviewed scores of educationists with a view to developing some modus operandi which might be an effective agency in the modernization of curriculum and classroom procedures.

After the report of this committee had been studied by the Department of Education it was decided to introduce an experimental programme of studies in selected schools throughout the Province. Accordingly, some seventy carefully selected teachers, representative of rural, village and urban schools, were invited to attend the Summer School in Edmonton where they were given an intensive five weeks' training in the techniques and philosophy of the curriculum recommended by

the Departmental committee.

In September, these pioneers, armed with enthusiasm, but with precious little in the nature of additional facilities, went to their respective schools to put the new programme through the acid test of experience. Included in the group of experimental schools were the Practice Schools associated with the Provincial training institutions in Edmonton, Calgary and Camrose.

As the parent is the barometer of public opinion with respect to education, and as the parent inevitably evaluates the efficiency of any educational system in terms of what he went through himself when a child, it was deemed advisable to have some concrete assurance that in the so-called fundamental skills pupils made reasonably satisfactory progress under the new dispensation. If it could be demonstrated that pupils under the new curriculum did as well as pupils under the conventional curriculum in the skills, then much of the argument against the innovation would be torpedoed. To effect such a comparison it would be necessary to test relatively similar groups of pupils living in different classroom environments over a prolonged period of time. The responsibility for making this investigation was entrusted to the Normal Practice School, Edmonton.

The specific problem set the school was to determine whether or not pupils acquired the traditional skills as well in the enterprise schools as they did in the conventional schools.

CHAPTER II

THE PROCEDURE FOLLOWED DURING THE INVESTIGATION

In order to evaluate the progress of pupils in the skill subjects under two different techniques, the pupils of two schools were studied. Both schools had essentially the same social background. The parents of the pupils were, in the main, of the professional and business class. The small percentage of pupils from a different milieu was about equally balanced as between the respective schools.

The teachers were capable and experienced, earnest and sincere, alert and intelligent. Any advantage with respect to teachers remained with the control school, where familiar classroom techniques were being employed with pupils adjusted to, and familiarized with, the learning pattern. The teachers in the experimental school received no additional equipment or facilities to assist them in coping with their new problems; they had received the barest modicum of special training in the summer course of five weeks' duration previously mentioned.

Owing to the prevalence of a severe epidemic of poliomyelitis the fall term of 1936 did not get under way until October 1st., one month late. It was mid-November before arrangements for the administration of the first round of tests could be completed. As no facilities were available for doing otherwise, it was necessary to limit the testing programme to Reading, Arithmetic, Language and Spelling. At the conclusion of the final tests in May the cooperating teachers were asked

to register their subjective reactions to their year's experience with the experimental curriculum. These observations are summarized in Chapter V.

The first round of tests was administered the last week of November, and the second, and final, the third week of May. Thus there was a lapse of six months between the testing periods. This period enabled the pupils in the experimental school to adjust themselves to the new learning atmosphere, and made it possible for each group to effect measurable progress in each of the skills being measured by the batteries of standard tests.

In November there were 186 pupils tested in the control school and 190 in the experimental school. By May, owing to removals and other causes the numbers available for comparison, with complete data, had been reduced to 147 and 168 respectively, a total of 315 pupils. The grade distribution of these pupils was as follows:

TABLE I

DISTRIBUTION OF PUPILS BY GRADES IN EXPERIMENTAL AND CONTROL SCHOOLS.

<u>Grade</u>	<u>Control School</u>	<u>Experimental School</u>
I	29	21
II	30	31
III	24	33
IV	14	22
V	26	33
VI	24	28
	<u>147</u>	<u>168</u>

It should be mentioned here that the Grade IV room of the control school had also a Grade V group. This latter group,

though tested, was ignored for the purpose of this investigation as its environment was not strictly comparable with that of the single Grade V groups in either school. The presence of this group also militated against the progress of the Grade IV class in the control school.

To determine the relative mental ability of the respective groups of pupils the following standard tests were used:

<u>Grade</u>	<u>Name of Test</u>
I	Detroit First-Grade Intelligence Test, Form A.
II	Detroit Advanced First-Grade Intelligence Test, Form A.
III	Haggerty Intelligence Examination, Delta I. Otis Group Intelligence Scale, Primary Examination, Form A.
IV-VI	Illinois General Intelligence Scale, Form I.

To determine relative achievement in Reading, Arithmetic, Language and Spelling the following tests were used in November and May:

<u>Grade</u>	<u>Name of Test</u>	<u>November</u>	<u>May</u>
I	Metropolitan Achievement, Primary I Battery	Form A	Form B
II	Metropolitan Achievement Primary II Battery	Form A	Form B
III-VI	Public School Achievement Battery A	Form 3	Form 4

In an investigation to measure intellectual and dynamic factors in activity and control schools in New York City, Wrightstone and a group of collaborators equated sixteen schools as to neighborhood, grade placement of pupils measured, chronological age, and intelligence.¹ By using this procedure

these investigators were able to determine the statistical significance of the data resulting from the testing programme. In the Edmonton investigation, however, the number of pupils who were strictly comparable in each grade was so small that the quartile scores seemed the only basis of comparison.

CHAPTER III

THE STATISTICAL DATA

If the social backgrounds of the respective classes were similar, and if the teaching efficiency of the two groups of teachers was comparable, there remained the initial task of determining the mental ability of the pupils who were being tested. Table II shows the distribution of mental ability by grades, as measured in terms of mental age.

TABLE II

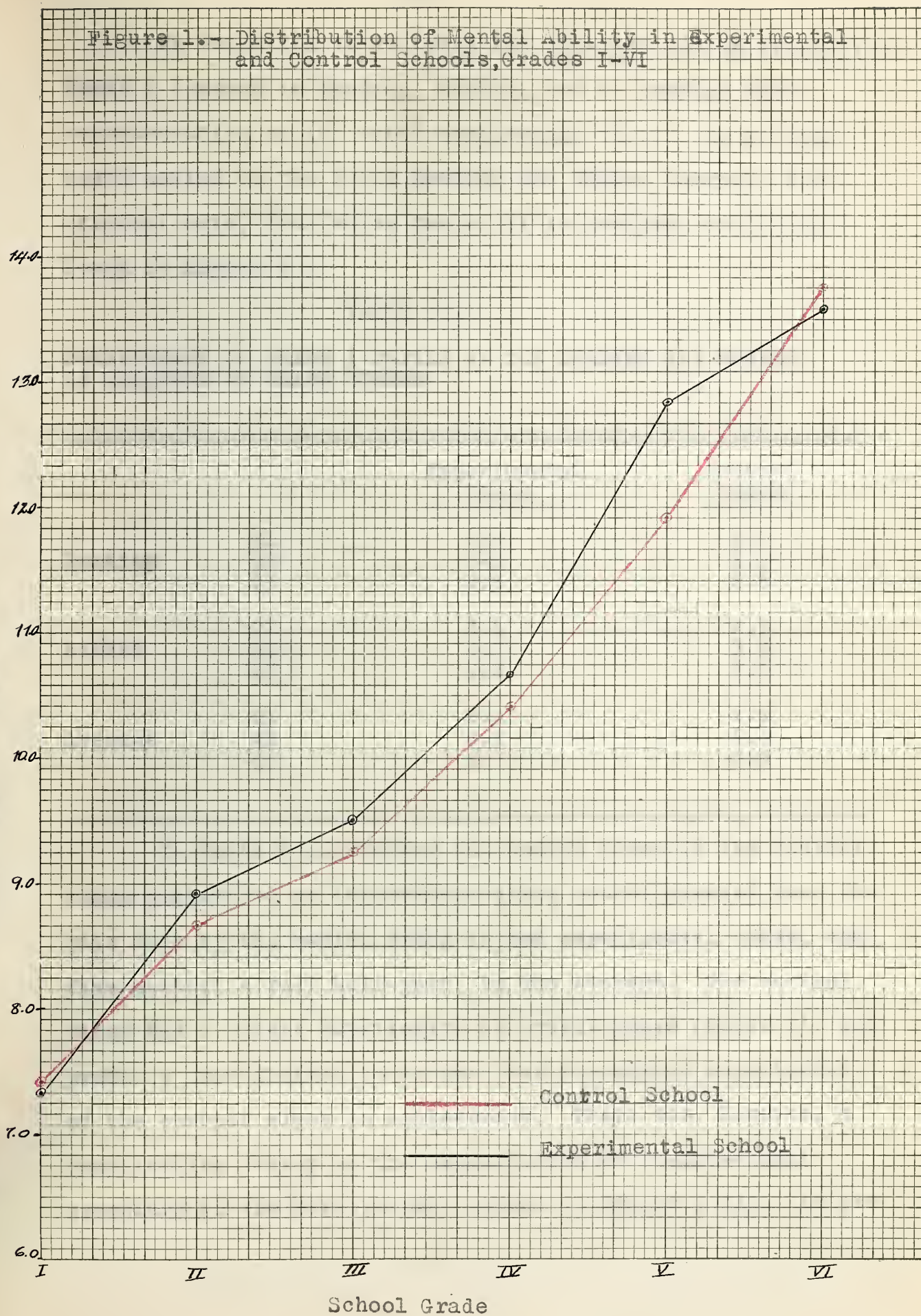
DISTRIBUTION OF MENTAL ABILITY BY GRADES, AS MEASURED IN TERMS OF MENTAL AGE.

Grade	Experimental School			Control School		
	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>
I	6.10	7.4	7.9	7.0	7.5	7.10
II	8.3	8.11	9.8	7.11	8.8	9.3
III	7.9	8.9	10.1	8.2	9.3	9.11
IV	9.8	10.8	12.0	9.9	10.5	10.11
V	11.8	12.10	13.11	11.2	11.11	13.2
VI	13.0	13.7	14.6	12.8	13.9	14.7

The median mental ages of Table II are represented graphically in Figure I.

It is evident that in Grades II to V inclusive the experimental classes had a slight advantage in mental ability as measured by these tests. The control classes had a similar slight advantage in Grades I and VI. Except in Grade V, where the difference in favor of the experimental class was eleven months, the differences in mental level between the respective classes were probably insufficient to influence the relative progress of the classes to any noticeable degree.

Figure 1.- Distribution of Mental Ability in Experimental and Control Schools, Grades I-VI



In Table III is recorded the progress of the respective Grade I classes in Reading, Number, and in Average Score representative of the total achievement in all the partial tests making up the total Reading and Number Scores. The original data, from which Table III is derived, are to be found in Appendix I.

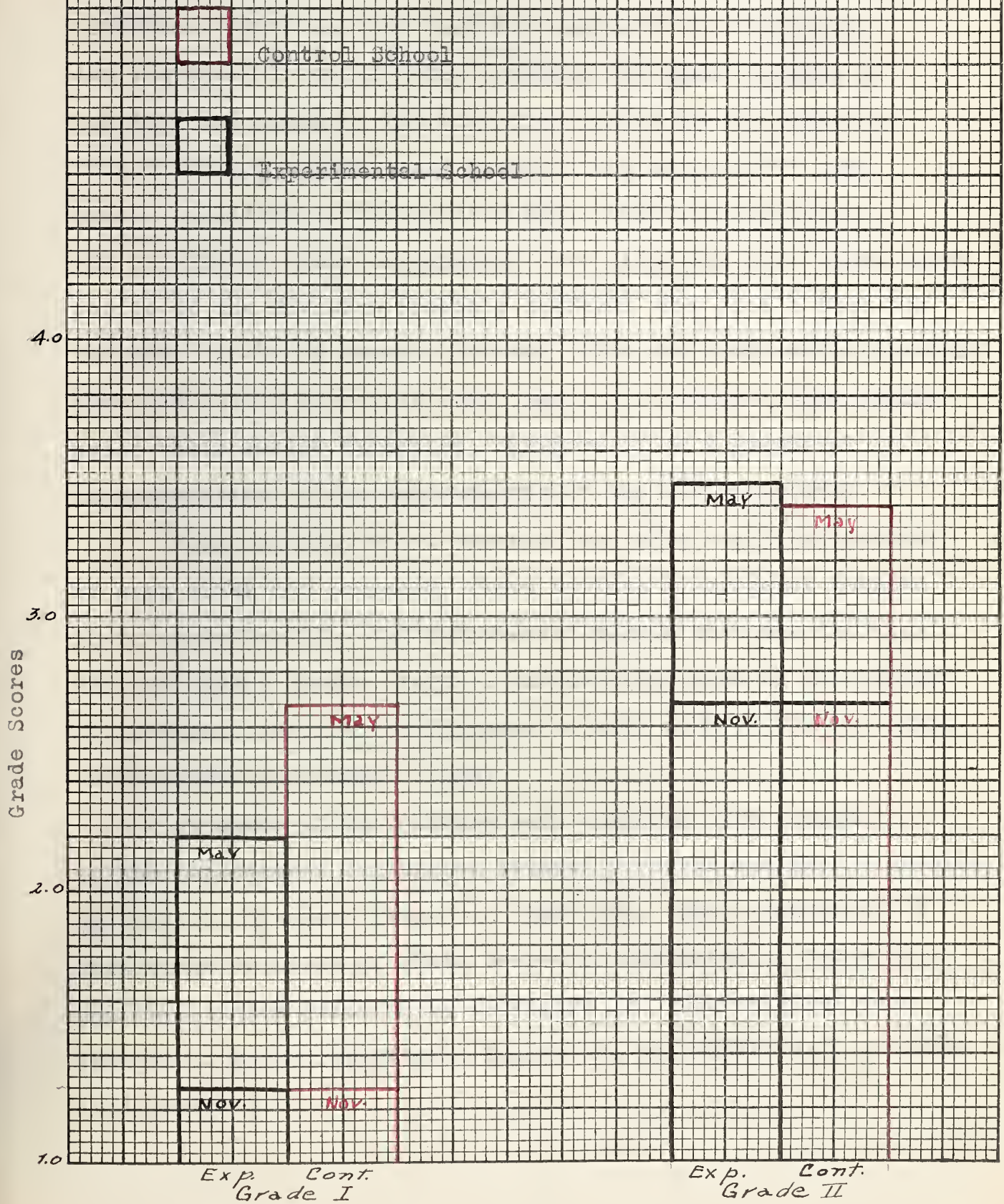
TABLE III

ACHIEVEMENT OF GRADE I PUPILS IN THE READING AND NUMBER, AS MEASURED IN GRADE SCORES.

		Experimental Class	Control Class
Reading	Q1	1.9	2.0
	Q2	2.2	2.5
	Q3	2.6	2.8
Number	Q1	2.6	2.9
	Q2	2.7	3.0
	Q3	3.0	3.2
Average	Q1	2.1	2.2
	Q2	2.2	2.7
	Q3	2.7	2.8

In Reading and Number the median group in the control class registered an improvement three months greater than the gain made by the median group in the experimental class, and five months, a full half-year, in the Average. The control class had a slight superiority in intelligence (Table I), but probably insufficient to account for the marked superiority of the control class in achievement. There was, however, a complicating factor in the organization of instructional procedure in the experimental school in Grades I-III. As the

Figure 2.- Median improvement in Average Scores in Grade I and Grade II.



experimental classes were to demonstrate the new classroom methods to teachers-in-training it was considered advisable to have Grades I-III organized into three Division-groups each afternoon. This implied that for one-half of each school day the Grade I pupils were dispersed throughout Grades II and III, and likewise for the other grades in the Division. This transient existence so hampered the progress of the Grade I children in the Reading skill that the arrangement was terminated early in January. The older and more experienced pupils of the Division probably suffered very little from the venture. It is on record, however, that the cooperating teachers breathed a sigh of relief when they again had their own pupils under their entire direction. (Figure II is a graphical representation of the achievements of the median groups).

When the respective scores of the slow and fast learners of each class are compared, there is less discrepancy between their mental ability and achievement scores than was the case for the median group. This is particularly true of the Average achievement, where the difference in each case is but one month in favor of the control class.

In Grade II the classes were compared with respect to the improvement registered between November and May in Reading, Arithmetic, Language Usage, and Spelling. The improvement of each class in terms of grade scores is tabulated in Table IV, and represented graphically in Figure II. The original data from which these improvement scores are calculated will be found in Appendix I.

TABLE IV

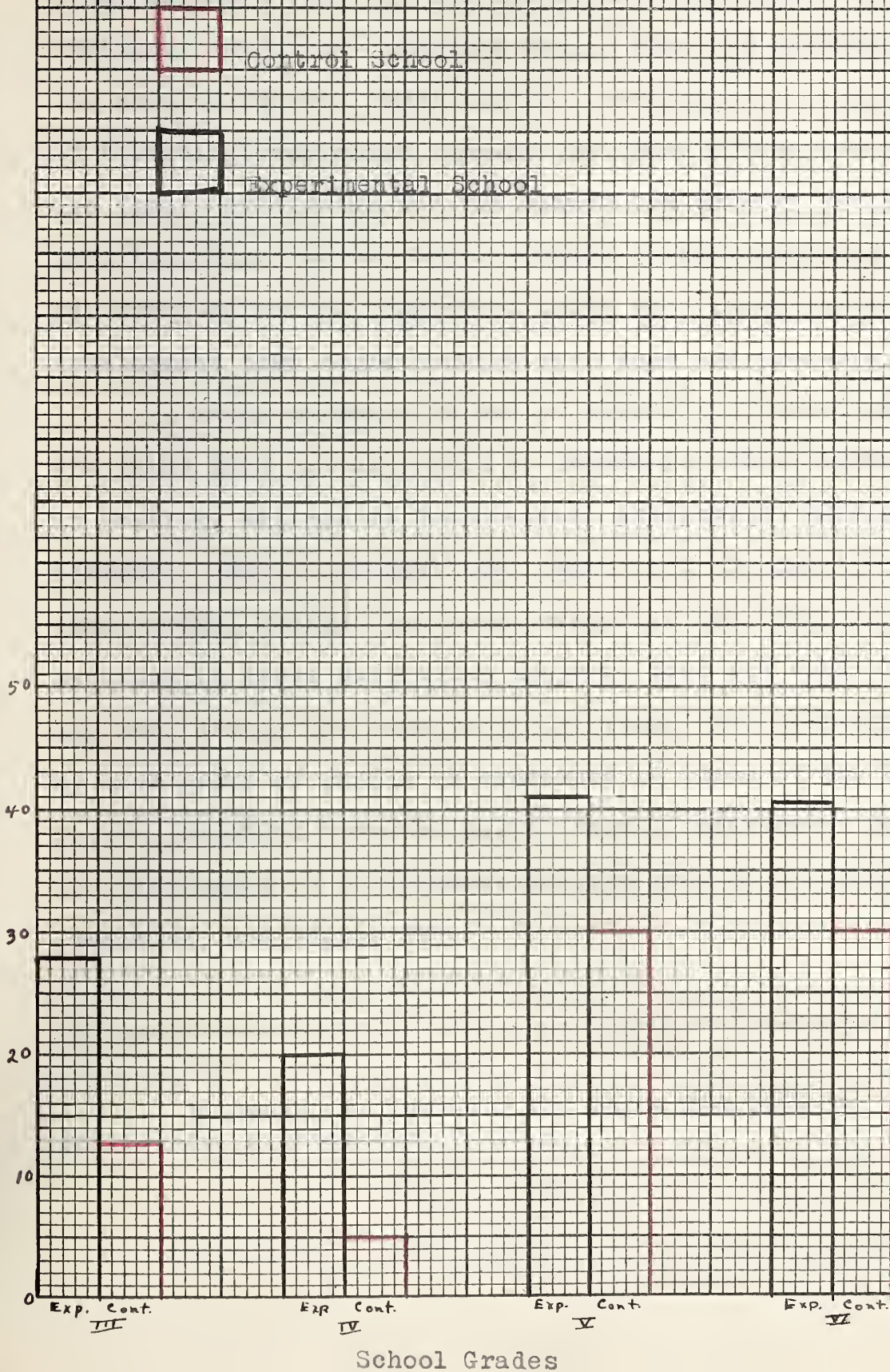
IMPROVEMENT OF GRADE II PUPILS IN THE SKILL SUBJECTS
AS MEASURED IN GRADE SCORES

		Experimental Class	Control Class
Reading	Q1	1.2	1.0
	Q2	1.4	1.0
	Q3	1.0	0.6
Number	Q1	0.5	0.6
	Q2	0.4	0.8
	Q3	0.4	0.8
Language Usage	Q1	0.5	0.7
	Q2	0.7	1.0
	Q3	0.0	0.8
Spelling	Q1	0.7	0.9
	Q2	1.0	1.2
	Q3	1.1	1.1
Average	Q1	0.8	0.9
	Q2	0.8	0.7
	Q3	0.6	0.8

In reading the experimental class showed a marked superiority over the control class, but in the other units of instruction, the control class registered the greater gain. The Average improvement of both classes was approximately the same, though the mental ability of the experimental class was somewhat superior to that of the control class. Any detrimental effects suffered by the experimental class during its three months of peripatetic experience, along with Grade I, was possibly balanced by a prolonged decimation of the control class by scarlet fever.

Figure 3.- Total improvement in Median Scores for each Grade (III-VI)

Median Points of Gain



In the two junior grades there would appear to be some substance in the claim advanced by some of the cooperating rural teachers that the new system of instruction was a less efficient method of inducting pupils into the rudiments of the skill subjects. More recent investigations in the field of 'learning readiness' suggest that much of the content of the former curriculum was too mature for primary pupils; that much teaching time was being devoted to drilling into young children skills and knowledges which at a later period of their¹ development they would acquire with ease and pleasure.

A study of Table IV and of Figure III, which depict the gains made by the pupils in Grades III to VI inclusive in Reading, Arithmetic Computation, Arithmetic Reasoning, Language Usage, and Spelling, shows that the pupils in the experimental classes had made, except in Spelling, more progress in these particular subjects than the control classes had made during the same period of time. If the progress made by each group of pupils is expressed in terms of the Grade Scores, provided with the Public School Achievement Tests, the difference in achievement becomes even more marked. (Table VI, and Figure IV).

¹
Hildreth, G. Learning the Three R's, Pp30-34, Educational Publishers, Minneapolis, U. S. A.

Figure 4.- Total improvement in Median Grade Scores
for each Grade (III-VI)

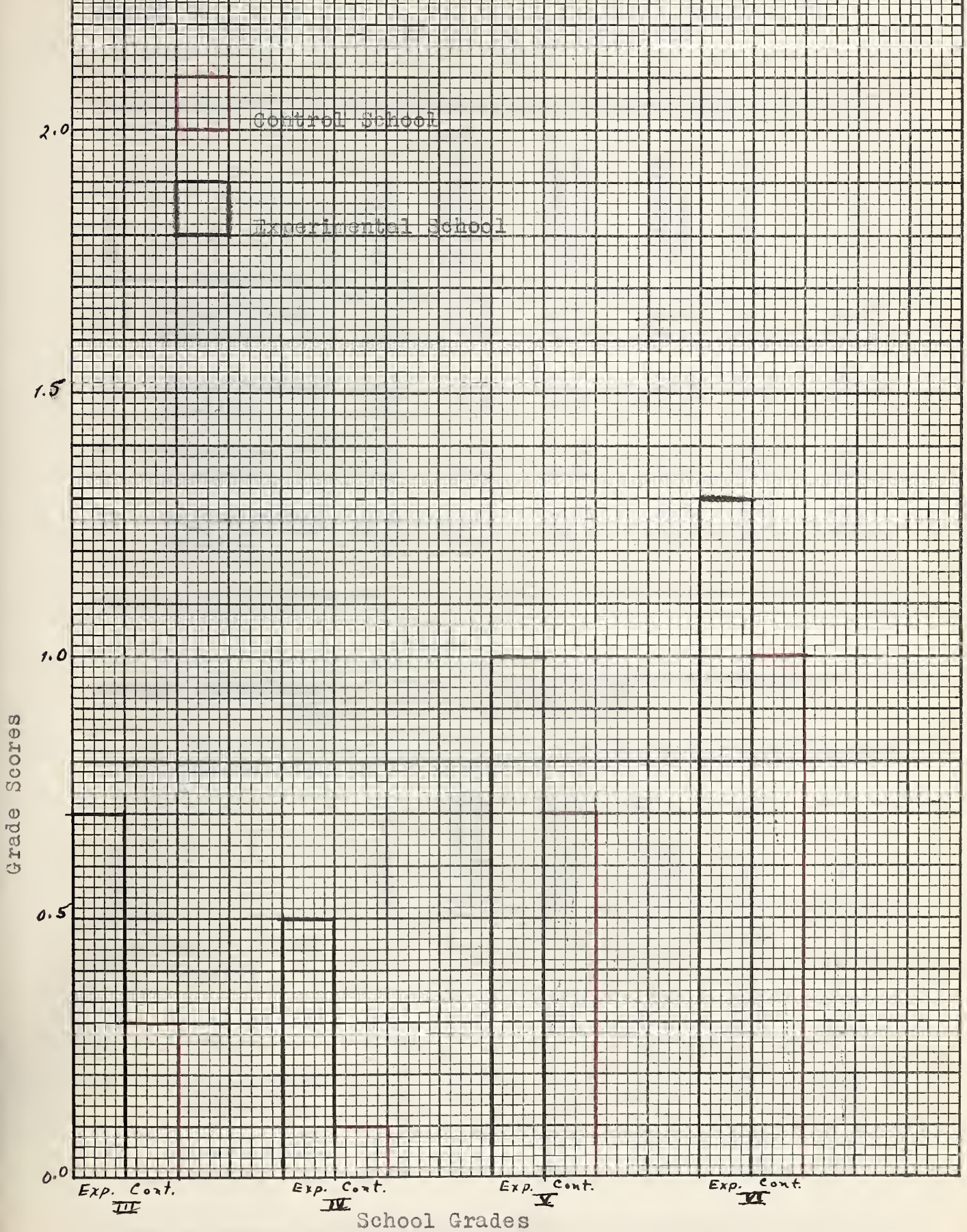


TABLE V

MEDIAN POINTS OF GAIN IN THE SKILL SUBJECTS RECORDED BY
PUPILS IN GRADES III TO VI INCLUSIVE

Grade		Reading	Arithmetic Computation	Arithmetic Reasoning	Language Usage	Spelling	Total
III	Experimental	5.6	15.5	6.7	-0.8	1.2	28.0
	Control	5.0	7.1	4.0	-4.0	6.7	12.5
IV	Experimental	5.5	10.4	6.0	3.0	4.2	20.0
	Control	2.7	4.0	3.3	-10.0	3.0	5.0
V	Experimental	9.2	10.4	6.0	3.8	9.4	41.2
	Control	6.5	8.5	4.5	1.0	5.7	30.0
VI	Experimental	7.0	19.7	6.7	2.0	5.6	40.5
	Control	4.7	16.1	2.7	1.0	9.7	30.0

TABLE VI

MEDIAN IMPROVEMENT IN GRADE SCORES RECORDED BY PUPILS IN
GRADES III TO VI INCLUSIVE

Grade		Reading	Arithmetic Computation	Arithmetic Reasoning	Language Usage	Spelling	Total
III	Experimental	0.7	1.4	1.4	0.0	0.1	0.7
	Control	0.5	0.9	0.9	-0.7	0.7	0.3
IV	Experimental	0.8	1.2	1.2	0.7	0.3	0.5
	Control	0.4	0.5	0.7	-1.9	0.3	0.1
V	Experimental	2.7	0.9	1.2	1.0	0.7	1.0
	Control	1.0	0.8	1.0	0.2	0.5	0.7
VI	Experimental	2.2	3.1	1.1	0.5	0.6	1.3
	Control	1.2	2.5	0.5	0.2	1.0	1.0

When Table VI, which pictures the improvement effected by the lowest quarter of each grade, and Table VII, which pictures the improvement made by the highest quarter of each grade, are examined it is noticeable that the experimental classes at least held their own in their relative progress when compared with the same groups in the control classes. In some instances the experimental classes fell behind in the slow group, a condition commented upon by some of the experimental teachers. Their feeling was that the slow group did not get as much drill as was needed to keep their progress consistent with that of the faster-learning portion of the class. The rapid learners made consistently satisfactory progress. In the experimental classes their initial achievement in Reading was frequently greater than that of the control classes. It is perhaps arguable to suggest that it is more difficult to effect an improvement of ten points between 50 and 60 than between 40 and 50, if the two classes are of somewhat equal learning ability.

TABLE VII

IMPROVEMENT RECORDED IN THE LOWEST QUARTILE (Q1) IN
GRADES III TO VI INCLUSIVE

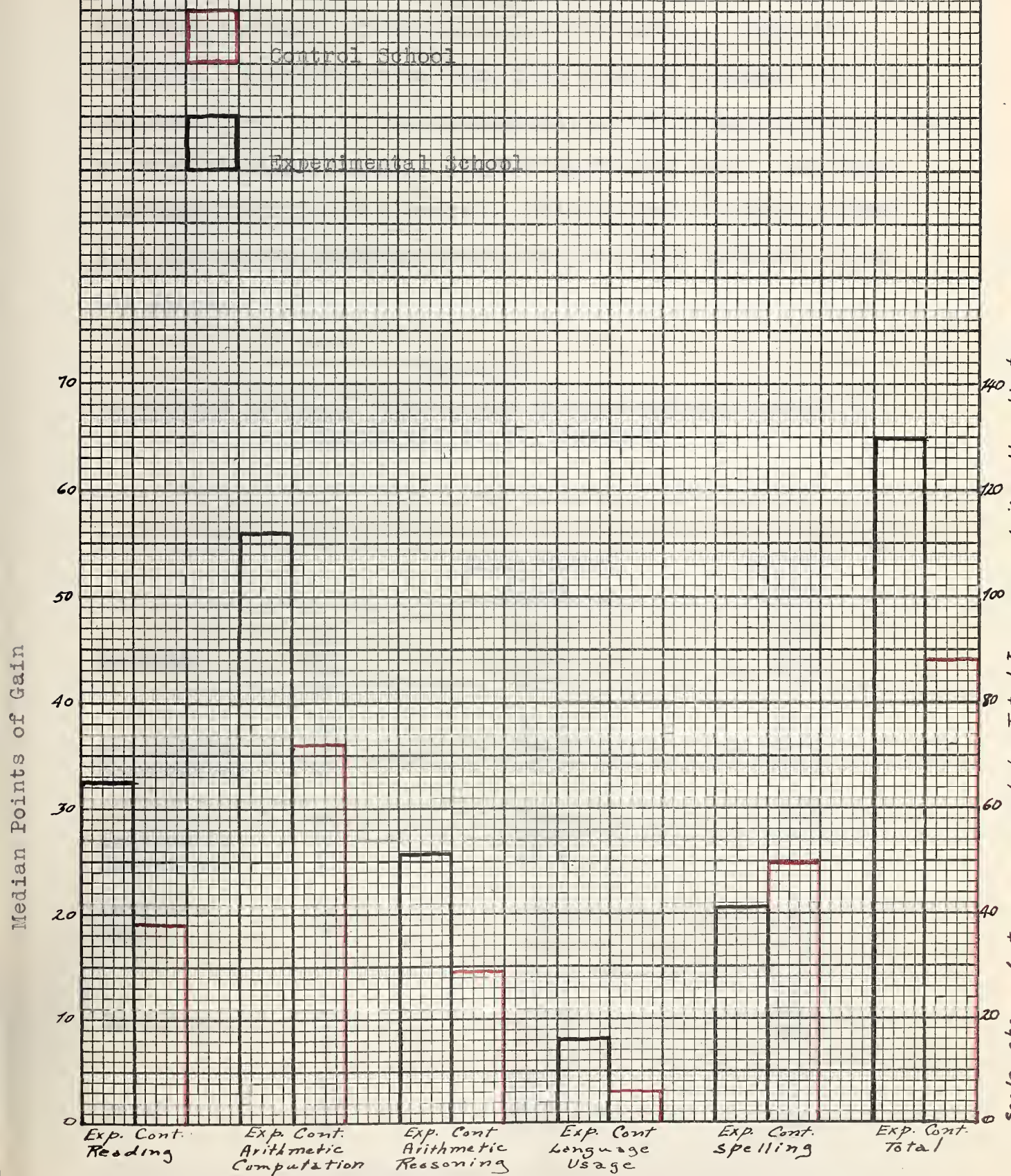
Grade		Reading	Arithmetic Computation	Arithmetic Reasoning	Language Usage	Spelling	Total
III	Experimental	3.2	13.4	5.1	1.8	3.3	23.3
	Control	4.5	6.3	4.8	-4.0	8.5	22.5
IV	Experimental	1.5	11.8	7.8	-2.0	3.2	28.7
	Control	2.0	2.0	4.0	6.0	3.0	17.5
V	Experimental	8.5	14.0	4.3	5.8	10.0	36.1
	Control	1.8	9.1	6.9	4.0	5.0	32.5
VI	Experimental	9.2	18.0	6.4	3.3	4.1	44.7
	Control	9.0	17.0	4.1	-3.0	7.0	23.3

TABLE VIII

IMPROVEMENT RECORDED IN THE HIGHEST QUARTILE (Q3) IN
GRADES III TO VI INCLUSIVE

Grade		Reading	Arithmetic Computation	Arithmetic Reasoning	Language Usage	Spelling	Total
III	Experimental	10.2	15.9	5.5	-0.9	5.6	32.7
	Control	7.0	6.0	2.6	-3.3	5.0	10.0
IV	Experimental	6.0	8.5	8.8	3.8	2.0	25.8
	Control	5.0	2.8	4.0	-5.5	3.7	3.3
V	Experimental	4.3	9.9	7.3	2.3	9.5	37.5
	Control	10.5	9.0	5.2	1.0	6.3	29.5
VI	Experimental	5.6	15.9	6.8	0.5	-0.5	33.3
	Control	2.3	5.3	3.8	3.7	10.5	38.0

Figure 5.- Total Median gain registered in each subject and in grand total, Grades III-VI



The series of tests administered in May was supposed to be statistically equivalent to the series presented in November. An examination of Tables V, VI, and VII reveals, however, that the Language Usage scores on the second series frequently indicate a negative gain. Had this anomaly occurred only in the one grade, or in but one school, it might have been ascribed to some miscalculation in the timing of the test. But when the same discrepancy appears in both schools it would appear that the second Language Usage Test was more difficult than the first.

TABLE IX

COMPARISON OF TOTAL IMPROVEMENT IN EACH SUBJECT TESTED IN GRADES III TO VI INCLUSIVE

		<u>Experimental Class</u>	<u>Control Class</u>
Reading	Q1	22.4	17.3
	Q2	27.3	18.9
	Q3	26.1	24.8
Arithmetic Computation	Q1	57.2	34.4
	Q2	56.0	35.7
	Q3	50.2	23.1
Arithmetic Reasoning	Q1	23.6	19.8
	Q2	25.4	14.5
	Q3	28.4	15.6
Language Usage	Q1	8.9	3.0
	Q2	8.0	3.0
	Q3	5.7	-4.1
Spelling	Q1	20.6	23.5
	Q2	20.4	25.1
	Q3	16.6	25.5
Total	Q1	132.8	95.8
	Q2	129.7	89.2
	Q3	129.3	80.8

The total improvement made by the pupils in Grades III to VI inclusive in the respective schools is presented in Table IX and in Figure V. In all subjects, except Spelling, the experimental classes made appreciably greater gains than the control classes. Much of the Spelling of the experimental classes was of an incidental nature, consisting of words which the pupils needed in their written enterprise work. As all spelling lists are based on either the Ayres or Thorndyke Word Lists, it is possible that the lists studied from the authorized Speller by the control classes had a greater proportion of the words which appeared in the Public School Achievement Test than were met with by the experimental classes in their more informal work.

From the data appearing in the foregoing Tables, and ignoring entirely what Dr. Wrightstone calls the 'dynamic factors'¹, it seems reasonable to conclude that, where pupils are under the direction of capable and efficient teachers, they will acquire the traditional skill subjects just as well in the classroom where the enterprise prevails as in the classroom where the more formal discipline holds sway.

All data from which the Tables in this chapter were derived are to be found in Appendix I.

¹
Pages 55-56.

A person who is not a member of the club

is not entitled to the use of the club house

and is not entitled to the use of the club grounds

and is not entitled to the use of the club facilities

and is not entitled to the use of the club services

and is not entitled to the use of the club amenities

and is not entitled to the use of the club privileges

and is not entitled to the use of the club benefits

and is not entitled to the use of the club advantages

and is not entitled to the use of the club conveniences

and is not entitled to the use of the club comforts

and is not entitled to the use of the club luxuries

and is not entitled to the use of the club pleasures

and is not entitled to the use of the club delights

and is not entitled to the use of the club joys

and is not entitled to the use of the club pleasures

and is not entitled to the use of the club delights

and is not entitled to the use of the club joys

and is not entitled to the use of the club pleasures

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and is not entitled to the use of the club joys

CHAPTER IV

THE ENTERPRISE PROGRAMME IN ACTION

No one has yet framed a universally acceptable definition of the term 'enterprise' as used in educational circles in Alberta. But the definition given in the Programme of Studies will establish the official status of the term at least: "An enterprise is a definite undertaking; teacher and pupils agree upon it and tacitly promise to carry it through as agreed. An enterprise is an undertaking chosen, after consideration, for its interest and value; carefully planned in advance, carried out according to plan, and brought to a definite conclusion, after which some¹ reckoning of gains is made."

When the Guiding Principles of the Programme are examined they are found to be consistent with this definition of the controversial term: "Learning is not something that a child gets, but something that he does. The child grows into knowledge, skill, appreciation, and culture; he does not take these things from the hands of the teacher."² Furthermore these same Guiding Principles set up certain criteria of desirable goals to be achieved by the pupil as a result of his classroom activities. Such goals must be:

"(1) Objective: The child should be able to conceive beforehand, in a general way, the result of his work.

¹ Programme of Studies for the Elementary School, P.288.

² Ibid, P.3

- (2) Immediate: Remote goals have no appeal to the child.
- (3) Accessible: A goal that cannot be achieved to the satisfaction of the child is not likely to inspire him to further activity."¹

Regardless of terminology it is apparent that the pupils and teachers in the classrooms of Alberta are to engage in a cooperative task, the purpose of which is to secure further enlightenment on some topic in which the pupils have evinced an interest, and, in deference to the practical exigencies of the classroom situation, a task which can be investigated with some degree of success with the facilities available.

At this point an examination of current ideas respecting the place of an activity in the classroom is necessary. To anyone who knows, and works with, boys and girls a non-active classroom is a contradiction in terms. Dr. Haggerty disposes of any such fallacious impression regarding any schoolroom in these words:

"To clarify this point, let us for a moment think of the opposite of the activity program and for the sake of logical exactness call it the non-activity school. In such a school the only action occurs in the environment, and in this environment the teacher is the chief factor. The pupils are inactive. They move neither the large skeletal muscles producing obvious movements nor the more delicate muscles involved in adjustments that in many cases are unobserved by the onlookers. There is no secretion of adrenalin due to external stimulation; no change in the beating of the heart; no alteration in the pressure of the blood or in the rate of breathing; no rapid transit of nerve impulse from receptor organs to internal masses of nerve tissue. Total passivity characterizes the pupils. When the day is done, the pupils, if still surviving, leave exactly as they came."²

1

Ibid, P4.

2

Haggerty, M.E., in The Activity Movement, Thirty-Third Yearbook, Pt. II.(N.S.S.E.) P. 94, Public School Publishing Co., Bloomington, Ill.

Such a school cannot exist; it is an absurdity because it eliminates all conditions antecedent to learning. Learning devoid of some form of activity, overt or implicit, is an unthinkable concept. The completely non-active school does not exist, never has existed, and never will exist. Even the most rigidly teacher-dominated, subject-matter-controlled school, is in one sense an activity school.

In accepted parlance, however, the term activity school does connote a type of situation in which the pupils participate in the initiation, planning and development of a contract which is to absorb their interest and energy over a protracted period. That there are very different interpretations of the extent to which the activity should dominate the classroom atmosphere is very evident from an article appearing in the 'The Activity Movement':

"(1) There is the belief that at times a little pupil participation may be helpful, providing it does not hinder but furthers the learning of the prescribed material and that, hence, some pupil initiation and responsibility may be admitted into the school procedure; (2) there is the belief that some participation by the learner in the development of the required work is valuable, and hence there results definite effort of the teacher to include it to further the work; (3) there is the belief that some learnings of social, aesthetic and creative nature are best secured through group enterprises in which pupils have a large share of responsibility, but, likewise a belief that more important than these are certain fundamental learnings not acquired through work involving initiative, self-expression, and responsibility, but through performance of definitely prepared pieces of work arranged to develop sequential hierarchies in seeking mastery; (4) there is a belief that the child's growth is best furthered through cooperative study of a large central theme, representative of an important phase of race experience, accompanied by systematic drill upon fundamentals, such drill not necessarily related to the central theme; (5) there is a belief that learning and growth come through the things that the learner does as he engages in life and that proper guidance of this activity is the way to promote the desired learnings and growth, and

(6) there is so profound an acceptance of the faith that the learner develops through his own initiated activity, that there are distrust of guidance, lest it transgress upon individual possibilities, and great emphasis upon study of the individual and upon helping him to further his own efforts."¹

Within the province of Alberta there are to be found exponents of all the first four of the classifications just mentioned, with number four probably having the greater number of advocates. Though many teachers may accept the theory involved in the broader declaration of faith expressed in items five and six, very few, if any, have yet developed to the point where their classroom practice is consistent with their fundamental premise. Presumably this inconsistency and apparent lack of concerted policy is to be anticipated, and perhaps encouraged, in a transition period which involves a complete reversal of traditional theory and practice. Teachers are of necessity eclectics in their psychological and educational theory; they cull and practice what they understand. They can introduce the new procedures no faster than their personal understanding of the new philosophy of the relationship of the child to his learning environment will permit.

To adjust the new programme to the multi-graded rural school, where the dispersion of the teacher's time over many subjects in many grades made it virtually impossible for the teacher to do justice to either pupils or subjects, provision

1

Ayer, A.M. and others, The Activity Movement, Thirty-Third Yearbook, Pt.II, (N.S.S.E) P.76, Public School Publishing Co., Bloomington, Ill.

was made for breaking the traditional eight grades into three divisions. Division I was to consist of Grades I-III, Division II of IV-VI, and Division III of VII-VIII. There was the expressed hope that eventually the rural school would confine its interest entirely to Division I and II, leaving Division III to be absorbed in properly graded Intermediate Schools to be established at conveniently located centres.

Within each Division each pupil would be permitted to progress at his own rate of achievement in the skill subjects. Thus there might be pupils in Grade II whose Reading and Language were of Grade III level, but whose Writing and Number were barely up to grade. Each pupil would then receive the special training needed to correct his deficiencies. With respect to the 'knowledges' and 'appreciations', however, all the pupils in a Division would constitute an enterprise group. Thus the Nature Study, the Literature, the Music, the Art, the Social Studies, and the expressional phase of Language would be integrated into one learning pattern. It was hoped that, with the grouping of classes into three divisions, where there had been eight grades, and with the segregation of the skills from the integration of the enterprise, the rural teacher would find that there would be more free time for coping with the needs of the individual pupil in the fundamental skills, and that there would be greater opportunity for enrichment of the content subjects through the participation of the pupils in the development of the enterprise.

In Division I (Grades I-III) there are two problems confronting the learner: (1) He must be inducted into an environment where his social contacts are more complex than

in his pre-school experience, and where he must learn to cooperate with others in his work and in his play; and (2) he must learn to read and write, and begin to develop some rudimentary ideas regarding the number system. Socially, children of this period are interested in the activities of the grown-ups in the community. They like to deliver milk, to keep store, to be policemen and firemen, to play house. The enterprises of this Division capitalize this interest in the development of their centres of interest.

The postman is an important visitor to every home. He brings tidings fraught with joy or sorrow; he is the carrier of intriguing bundles, large and small. 'Hasn't the postman called yet?' is a question so frequently on the lips of adults that, to the child, the postman becomes an inordinately significant community figure. It is not difficult for the teacher of the Grade II class to elicit enthusiastic approval of a suggestion that a study should be made of the postman and his duties. There are several days of discussion about such matters as, Who writes letters? How does the postman get them? How did the letter Bill's uncle wrote him from far away England get to Edmonton? To answer some of the questions the pupils decide to visit the central post office. Now a letter requesting this permission must be written, and in due course, a very cordial invitation is received from the postmaster. Acting on a suggestion contained in their invitation, the pupils write each other letters which they mail at the post office on the afternoon of their visit. They then follow these letters from the receiving desk to the local delivery racks and next day receive them in the classroom.

Upon their return from this visit, the pupils, after writing the postmaster a letter acknowledging his kindness, decide they must have a post office with wicket and stamps, red mail boxes and a bag for the postman, and, indeed, 'everything.' Several committees are organized to construct the necessary articles and in due course the post office is declared open for business. Now, it is discovered that post office clerks must be able to add and subtract in order to give people the right change when they buy stamps. So number work enters into the enterprise. It is necessary that letters be neatly addressed for the post master has told them how difficult it is to make delivery of letters illegibly addressed, or with names mis-spelled. Everyone must learn to write neatly and to spell correctly. There are artists in the class who become concerned about the postman being out in every kind of weather, and pictures are made of the postman on his 'walk'. Many stories are read about postmen in other lands and these stories form the inspiration for a frieze done with colored chalks. Reading, writing, spelling, number work, language, art, music, all play their part in the study.

As a culmination these pupils wrote a little play of several scenes which dramatized the place the activities of the postman play in the community. It is interesting to note that the pupils demanded that the groceryman be their next unit of study.

So much for the description of the scope of an activity

programme in Division I. Built on a foundation of the pupils' direct social experience, it reorganizes and extends that experience as a preparation for the interpretation of the more vicarious experience of later years. As the community becomes a more interesting place in which to live, the interest in the world community begins to grow broader and deeper. It is this wider community which becomes the centre of interest for Division II.

Grade V became interested in Coal Mining in Alberta through a series of letters which had been exchanged with pupils attending school in a foothills mining town. While preparing their letters describing the capital city the pupils discovered that Edmonton also had important coal mines, that hundreds of families depended on these mines for a livelihood. Such an important local and provincial industry was surely worthy of closer observation.

In pursuit of their investigation the pupils wrote letters to schools in mining centres, and to pupils in those Edmonton schools adjacent to the local mines, for information; reference books and pamphlets were consulted; the important coal bearing areas of the province were located; pictures of mines and mining towns were studied; the importance of railway and water transportation was noted; the inter-relationship with other industries was investigated; by-products were studied with the assistance of the professor of chemistry at the University of Alberta, whose daughter was a member of the class; the history of coal was developed in a series of interesting pictures which were displayed in a homemade 'movie'.

The pupils wished to visit a mine, but neither teacher nor school felt equal to assuming the responsibility of such an undertaking. However, several of the boys induced their fathers to take a Saturday afternoon recess from golf, and were given the thrill of their young lives far beneath the surface of the earth. After this first-hand experience these boys, in a glass-fronted box, made a cross-section of a mine, complete with shaft, tunnels, cage, cars, and all the other appurtenances of the well-appointed coal mine. Other boys brought their meccano sets and made a model of a tippie, complete with cars and hoisting engine. Meanwhile the girls, on a sheet of building paper ten feet by three feet, prepared a picture in colored chalk of a typical mining town.

The culmination, a recapitulation of the pupils' experience, direct and indirect, over a period of seven weeks, demonstrated that not only had the pupils broadened their social concepts by learning how another kind of social community lives, but also that they were beginning to realize the interdependence of industrial communities. In addition to these intangibles, the pupils had studied the geography and natural resources of Alberta, and the important question of the conservation of our resources had been discussed.

Life in a Mediaeval Monastery is being dramatized in Grade VI. The abbot is presiding at the chapter house meeting. The reports of various committees are presented; the financial statement is presented in English currency;

the head of the livestock department tells of the efforts being made to improve the quality of English wool for the Flemish market; he is interested also in the effort the government is making to preserve this market for England despite encroachment by France; he exhibits pictures he has made of various types of cattle, sheep, hogs, and poultry; the field crops expert exhibits boxes in which wheat has been growing under controlled conditions and from these experiments he makes certain inferences respecting tillage; the superintendent of relief tells a woeful story of unemployment and distress with their attendant social evils; he suggests that a memorial be despatched to the government requesting a programme of public works to provide useful employment; the king's tax collector appears to collect certain feudal dues; amid much grimacing and other evidence of distress, this financial obligation is cancelled, leaving the monastery with properly notched tally sticks, and a much flattened money bag; finally the department of health depicts most deplorable living conditions among the peasants, disease is rampant, but the customary remedies seem to be ineffective. When the culmination is concluded a complete cross-section of a phase of the social life of mediaeval England has been dramatized.

The activities introduced during this study were varied. There were experiments in natural science; books were illuminated; a stained glass window (of cellophane) was constructed for presentation to the abbey; appropriate songs were learned; the reading and research in the classroom, in

the library and at home were extensive; stories and poems characteristic of the period were read. Certain contrasts and parallels with modern life were commented upon. The superintendent of relief made the sotto voce comment during his report that even today unemployment and poverty were as prevalent as in mediaeval times.

With Grade VI the enterprise period, as such, ends for the child. During succeeding years he meets with a more rigid curriculum, but yet one which is characterized by a large degree of freedom of expression through varied media.

TABLE X

ENTERPRISES DEVELOPED DURING THE PERIOD OF THIS INVESTIGATION
1935-1936 IN THE EXPERIMENTAL SCHOOL.

Grade I

How the World Gets Ready for Winter

We Go Shopping

We Entertain Little Visitors from Out of Town

We Visit Japan

Spring is Here

Grade II

Taking Good Care of Ourselves

We Go Travelling

A Pageant of Workers

A Trip To Holland

Playing in the Forest with Christopher Robin

We Play House

Grade III

The Opening of the Children's Museum

We Visit Kanda in the Congo

Robert Louis Stevenson

A Festival of Spring

Our Food Garden, or How We Get Our Food

Grade IV

Hans Christen Andersen

Farming in Italy

Scenes from the Life of LaVerendrye

Grade V

Among the Arabs

We Visit Scotland

Life Among Alberta Coal Miners

French Canada

Grade VI

The Cave Men

The Story of Christianity

Monastery Life

Town Life

A Trip to Mexico

As the titles fail to suggest the scope and content of the enterprises mentioned in Table X, those marked (#) are given in more complete detail in Appendix II.

When assisting pupils to choose an enterprise what

are some of the objectives which the teacher must keep in the focus of her attention during the discussion? There are desirable attitudes and appreciations to be cultivated; there are abilities and skills to be developed; there are habits to be established or corrected; there are knowledges to be transmitted. Dr. Donald Dickie, Provincial Normal School, Edmonton, provides a most illuminating tabulation and check list:

Desirable Outcomes in the Education of Junior Grades

Aims

"The development of the individual by creative self-expression.

The development of the citizen by experiences in social adjustment.

The development of the skills required to handle the materials and situations involved in aims 1 and 2.

Desirable Attitudes

Interest in learning.

Curiosity about nature and things seen.

Liking to work.

Desire to express oneself.

Desire to be accurate in expression.

Desire to help others.

Expecting people to be friendly.

Respect for the personality of others.

Tolerance for the ideas of others: open-mindedness.

Critical of ideas offered for acceptance.

Respect for superior ability.

Respect for order, authority, older people.

Desire to do one's share, to pay one's way.

Willingness to cooperate.

Willingness to accept responsibility.

Appreciations

Value of things: sunshine, paper, telephone, etc.

Quality in things: freshness in food; fineness in goods; grace in design; skill in workmanship, etc.

Qualities in people: honor, loyalty, courage, endurance, truthfulness, unselfishness, good manners, public spirit, hard work.

Humor

Order: neatness in person, clothes, home surroundings; harmony in sound, color, design, composition or arrangement; the total effect of things; finish of detail, etc.
 Arts: music; melody; painting; color and composition; literature; rhythm, story, picture.

Abilities: Power to

Work alone: self-reliance

Work with others.

Initiate

Concentrate on work in hand.

Make a new attack on problems if first fails.

Persist until work is completed.

Distinguish between principal and subordinate ideas.

Organize a simple body of material on above basis.

Solve a simple problem of mechanics, behavior, or social adjustment.

Make friends

Listen attentively.

State accurately and clearly.

Follow instructions.

Conform to common social standards.

HabitsPhysical

Breathe correctly.

Wash before meals, at nights, bi-weekly baths.

Clean teeth morning and night.

Keep clothes reasonably clean.

Eat regularly; eat vegetables and fruit; drink milk.

Regular elimination.

Play out-of-doors daily.

Sleep nine to ten hours in room with fresh air.

Mental

Observe natural phenomena in environment.

Listen with attention to what is said.

Read with attention and state the principal thought.

Read with a conscious purpose, for general significance, for drawing a conclusion, for collecting facts, for following directions.

Read the passage, close the book, and make notes from memory; then check notes.

Read the preface of a book.

Use the table of contents and index in research.

Read the newspaper and read it by selection.

State without exaggeration what has been seen, heard, read or thought.

Check facts heard or read for accuracy.

Criticize ideas heard or read.

Collect data preparatory to drawing a conclusion, or deciding upon a course of action.

Skills

Read 200 words a minute with 90% of comprehension.
 Write legibly with reasonable speed.
 Speak or write in complete sentences a coherent paragraph.
 Perform the four simple operations in number with reasonable accuracy.
 Read aloud in correct thought groups with a pleasant voice, clear enunciation, and natural expression.
 Speak to the pupil group without nervousness or mannerisms.
 Spell 500 words commonly used in writing, including the hundred commonest spelling errors.
 Read simple music.
 In Art use two or three simple media; choose harmonizing colors; compose a simple picture; arrange a room; choose a costume.

InformationGeography

World, zones, climate, continents, oceans.
 Life of type of peoples in type regions.
 Location and organization of type industries.
 Canada: Great regions with climate and main features.
 Location and organization of important industries.

History

Background of world history: primitive peoples, tools, etc.
 Background of British History: Saxon democracy, feudalism, the Renaissance.
 Discovery and exploration of Canada: story and biography.
 Study of life: Indian, fur traders, pioneers.

Nature

Flora and fauna of locality.
 Canadian forests: rivers, minerals, etc.
 Canadian wild life and birds.
 Science: Simple Reactions of:

Air

Water

Light

Heat

Health: Reasons for

Breathing fresh air.

Cleanliness in person, clothing, food, home.

Rest, exercise, recreation.

Simple foods: preparation and sources of.

Clothing: sources of, manufacture of, choice of suitable.

Music

The notes

Simple facts regarding key, time, etc.

What to listen for in a piece of music.

Stories of a few great musicians.

Art

Facts regarding paper and materials: the mixing and use of colors, etc.

What to look for in a picture.

Stories of a few great painters.

Generalizations

The interdependence of all forms of life.
 Influence of nature on all forms of life.
 Man's need to adapt himself to his environment.
 Man's control over nature.
 Science is transforming our ways of living and thinking."¹

Though the purpose of this investigation was to determine what happened to the skills when the enterprise became the chief factor in the classroom, there has been no definite statement of how the school takes care of this important phase of its work. Just where do the skills enter into this programme? The answer to the question is, that indirectly they are never out of it, and that directly, they occupy about fifty percent of the school day. The enterprise motivates the skills; the pupil's participation in the former is conditioned by his skill with the latter. The greater his ability to acquire information from the printed page, and the more mature his oral and written expression, the more responsibility can the pupil assume in the direction and guidance of his own and others' activities during the development of the enterprise. The pupils are grouped and receive instruction according to their needs. The less competent receive formal lessons in reading and language; the more competent simply read books suited to their maturity level and enjoy a wide range of literary expression. In substance, the same procedure applies to arithmetic. Since the motivation of the enterprise is usually lacking in arithmetic, teacher authority and the traditional content of

¹
 Dickie, D.J. A Tentative List of Outcomes for Enterprise Education, from A.T.A. Magazine, Oct. 1937, P. 33.

school programmes supervene more directly. The doctrine of self-determination cannot be applied to the entire learning situation. The teacher, profiting from her own broader experience, must be prepared to insist that the child shall learn some things now that he may not find an immediate need for until some day in the future. It must be recognized, as Melvin points out, that teachers must interpret child needs with discretion:

"Teachers have sometimes been misled in three ways in their understanding of the meaning of the word need as an organic beginning point for a unit of conduct. In the first place needs have sometimes been confused with merely felt needs. Thus teachers have waited until children actually express in words some specific need before they have been ready to do anything about it.....

Second, it is essential that teachers assist children in evaluating their felt needs. Children feel many needs which may be the expression of organic drives or petty interests.....Children may be helped to desire their best needs.

Nor, in the third place, should teachers make the mistake of confusing needs with merely present or immediate needs. It is frequently necessary to consider deferred needs and give them preference over present ones. The child who needs a saw to cut a board must not snatch it from a fellow pupil. He must push aside his present concrete need and recognize another more abstract one of not being rude to his companion. Again, the pupil who has made a vocational choice must study things of which he has no present need. The engineer must study mathematics, the doctor biology. In fact, the higher the school level, the more necessary it is for children to learn to control their conduct in terms of deferred ends.

The statement that education is life has misled many in this matter. Education is life, which is a preparation for life. Thus we should not any more deliberately sacrifice the future to the present than we would the present to the future. It is quite true that as we teach the child, the child is living now. It is not necessary, however, to act as though he would be dead tomorrow.....

Teachers must recognize the validity of deferred needs, otherwise they will frequently mistake whims or passing desires for real needs."¹

¹

Melvin, A.G. The Activity Program, Pp 26-28, John Day & Co., New York.

A well-balanced enterprise programme supplies the pupil's immediate needs as revealed in patent deficiencies which interfere with his effective participation in the group activities, and it also provides for his probable future needs as a school and community citizen by inducting him into his social environment, (which is his 'cultural heritage'),¹ through cooperative activities. In the 'Activity School' Ferrier defines the position of the modern school as follows:

"A complete education is one that takes account of sensation, of feeling, of intelligence, and of will. The child must not only ascertain, think, reflect,--that alone is not enough,--but feel, rejoice, and suffer, reflect and will. Further he must will and carry out the willed act. By enabling the child as often as possible to carry out what he has put together and willed, the Activity School will achieve the education of the whole being. In so far as it finds the right potentialities in him, it will make him a complete man. The school which offers nothing but knowledge must disappear. In its place must come the school which teaches the child how to use the lever which has ever raised the world above itself--purposeful activity."²

¹
The Programme of Studies for the Elementary Schools of Alberta, (1929 ed.) P.3.

²
Ferrier, A. The Activity School, P.308, John Day & Co., New York.

CHAPTER V

OBSERVATIONS OF COOPERATING TEACHERS

Each teacher in the experimental classes answered a questionnaire of twelve items. The first eight items of this questionnaire were adapted from a report by the Superintendent of Schools, Houston, Texas; the last four items were dictated by the peculiarities of the local situation. The questionnaire was as follows:

- "1. Is it possible through an activity curriculum to maintain as high (or higher) standards of achievement in the skill subjects as are maintained when these skills are taught through traditionally organized subjects executed by a fixed daily teaching schedule?
2. Is less time used for formal drills in the curriculum taught through activities?
3. Is there more time and greater opportunity for the development of creative self-expression in an activity programme?
4. Does an activity programme permit greater teaching freedom for real education?
5. Do pupils acquire more information through an activity programme?
6. Do pupils engaged in activities read more general literature than those following the more formal curriculum?
7. Does the activity curriculum increase the pupils' interests in school and other worthwhile activities?
8. Does following the curriculum that is based on activity tend to improve the quality of the teaching?"¹
9. What is the effect of enterprise education procedures on (a) the inferior pupil, (b) the superior pupil?
10. Does enterprise education make adequate provision for those pupils who have (a) special disabilities, (b) special abilities?

¹
Oberholtzer, E.E. in The Activity Movement, Thirty-Third Yearbook, Pt. II. (N.S.S.E) P.136-142. Public School Publishing Co., Bloomington, Ill.

11. Should the enterprises for Division I be selected about a common centre or core?
12. Should the enterprises for Division II be selected in a definite sequence?

It may be of interest, at this point, to record the impressions of Dr. Oberholtzer. His study involved forty-five fourth and fifth grade teachers, who constituted the experimental group, and twenty-eight fourth and fifth grade teachers who formed the control group. Over three thousand pupils were involved in the complete study. To every question on his questionnaire Dr. Oberholtzer replies with an unqualified, 'Yes'. As space in the monograph was limited the data on which his conclusions were based were not tabulated. That the data were definitely favorable to the newer type of classroom organization is attested by the fact that Houston reorganized its curriculum on an activity basis.

The answers of the teachers of the experimental classes to this same series of questions would in general confirm the findings of Dr. Oberholtzer. They would wish this confirmation qualified by the realization that they were reporting on an experience of only a few months with an entirely new system. Having established this secondary line of defence, the teachers of the experimental classes summarize their conclusions as follows:

1. Achievement: Through enterprise education children do achieve as high a standard of attainment in the skill subjects as under the conventional programme, except in Grades I and II, and there the root of the difficulty may have been the type of organization in which these pupils were involved during the

pre-Christmas term.

2. Formal Drill: Less time is being devoted to formal drill though some of the teachers feel that the slower group in their classes would be the better for more drill. There was the suggestion that some instructional device similar to the Winnetka plan might be inaugurated to overcome this deficiency.
3. Self-expression: There is definitely more time and greater opportunity for the development of creative self-expression in the enterprise classroom environment.
4. Teaching Freedom: An enterprise programme does permit of greater teaching freedom for real education.
5. Information: Pupils acquire as much, and probably more, information through the enterprise programme.
6. Reading: Pupils engage in more purposeful reading. More reference books are being consulted and a wider acquaintance with books is being established.
7. Interest: The pupils' interest is greatly enhanced. They come to school early and are more than content to stay late.
8. Quality of Teaching: When the teacher no longer has the prescribed formulas and custom-established techniques to guide her she must depend on herself to meet a constant succession of new situations effectively. In so adapting herself she is demonstrating superior teaching ability. Enterprise education demands this new and better type of teaching.

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9. (a) The Inferior Pupil: The effect of enterprise education on the inferior pupil is in some cases definitely beneficial, and in no instance that came under the observation of the teachers, has it proved harmful. Perhaps the slower pupils need more drill. But the social utility of much of the content material that such children would absorb is practically negligible. The socializing experience of the enterprise environment may prove to be of very great value.

(b) There can be no questioning the beneficial effects of the new programme on the superior pupils. Their growth and development has been a real joy to everyone associated with them.

10. (a) Special Disabilities: Personality maladjustments tend to disappear with the self-consciousness which is absorbed by the group contacts. There are so many and such varied outlets for emotional surges that the pupil tends to remain more stable and balanced than under the more formal programme. He has less time to think about himself and ceases to be a problem to himself and his teacher.

(b) Special Abilities: Children who have special ability in art, music, dancing, and literary expression revel in the new world opened up for them.

11. & 12. Reorganization of Enterprises: The Division I teachers feel that the enterprises should be developed about the pupils' direct experiences, in the home, on the farm, in the community. The Division II teachers are of the opinion that the enterprises should be selected in a definite

sequence.

Through the courtesy of the Department of Education excerpts from the Digest of Reports from Experimenting Rural Teachers are quoted below:

"Some 55 reports have been received to date and not more than three of these have any doubt about the desirability of going ahead with the New Course.

Twenty-four teachers found Division II more effective than Division I; seventeen found Division I more effective than Division II; and thirteen thought that the Divisions were equally effective. Several stated that under proper conditions in regard to books and equipment, Division II would be as effective as Division I.....

All report that satisfactory progress is made with the skills. Some add the proviso that formal lessons are still required. One teacher reports that the bright pupils show more progress in the skills under the New Course; that the average pupils make about the same progress; but that dull pupils are slower under the New Course than they would be under a system of forced feeding. Another reports that Number Work is poor in Division II since so much time is required for handwork, but that Reading and Language are very good. Still another points out that slow pupils, under the enterprise programme, are not left to themselves, but are pulled along by the class.

There is no question regarding the unanimity with which the teachers report increased interest and more effective motivation.....

No teacher reports that the parents or school boards were opposed to the New Course, although about one-third of them report that no commendation or complaint was offered.....

Nearly all the teachers report a sad lack of material and equipment. One teacher in the Athabasca Inspectorate makes it perfectly clear that in districts of a kind such as she is working in, the New Course will most certainly fail unless something is done to make provision for equipment and material. The greatest need is probably that of adequate school libraries."

Shortly after the Department of Education had prepared its Digest of Reports, the A.T.A. Magazine published a series of more detailed reports from the same teachers.

The replies with respect to progress in the skills, the theme of this report, are of particular interest:

(1) Miss Kittlitz of Bruderheim: As compared with classes I have had in previous years, I find that the growth seems most amazing in Grade I. Never before have I had a class so anxious to learn to write and spell. Without having a single formal spelling lesson, I have one student who has mastered over two hundred words, and the others are also doing remarkably well.....The skills, of course, will have to be tested and the results compared with those of schools of the same type.....I think we have progressed as well as in other years, and we have certainly not spent as much time on them. The pupils are so interested in their enterprise work that they willingly spend time at home working at their number work in order to have spare time in school. There is so much writing done while the enterprise is being carried out, that all are receiving sufficient practice. The writing is now purposeful, and is not merely the covering of paper with words copied out of a book or from the blackboard. Speed has also increased. Number work enters into practically every enterprise in some form or other, be it measuring, bills and receipts, measurements for recipes, etc. Language needs no attention. It is obvious that much oral work must be done in order to lead to a successful conclusion. Questions, explanations, stories and reports, are all part of the daily programme. In reading the children seem to grasp the meaning clearly and speed in silent reading has increased. In oral reading it is necessary to spend more time developing expressive work.....

(2) Mr. Stewart Hay of Stettler: I would say the pupils can make quite satisfactory progress in the three R's under the New Course. There is no reason why the teacher should decrease the amount of formal teaching and drill which it has been customary to give in separate periods to the three R's. There are good reasons why he should not: the enterprise usually moves rapidly enough to completion when but a part of the school day is spent upon it regularly; pupils begin to lose interest and become dilatory when there is too much time for promotion of enterprise according to their own initiative and devices. The wisdom of having a right proportion of time for enterprise and for ordinary lessons is evident in the children's need of variety of situation in limited attention span, etc.....
.....One outcome of enterprise work is a great improvement in pupils' reading ability; there is a fairly long and somewhat discouraging period of initiation into the way to use books to extract from them what is desired, but finally ability to read quickly with comprehension develops and the pupils feel that they are "over the top" on that score. My Grade IV pupils have succeeded quite well in reading high school texts to get the information they needed. There is great improvement, too, in written language, for the pupils have something of their own to tell, and a corresponding desire to tell it with ease and

fluency for satisfaction to be gained in being fully understood. As pupils read more, the sentence structure and language forms of what they write improve so that there is less need of formal drill on matters of sentence structure and proper forms of language for effective expression of ideas; composition becomes less artificial and tedious and more natural and enjoyable.....

(3) Mr. Ekman of Fleet: Progress in the skills has been satisfactory, but, in some instances, not as rapid as under the old course. The pupils with outstanding ability and initiative have made excellent headway, while the progress of the average pupils has been satisfactory indeed. There is, it seems, a tendency for those lacking in ability to do but little, and consequently they appear to progress at a slower pace than would be necessary under a rigid system of forced feeding.

(4) Miss Grace MacKinnon of Tofield: Without doubt the children are making satisfactory progress in the skills. In reading, both the rate and comprehension score have increased. In Div. I reading has been greatly stimulated. In Div. II the pupils are so interested in finding material that they read books which ordinarily would be far beyond their ability. They also acquire a taste for reading.....
....."

In May 1936 Dr. Wrightstone published a preliminary report of an investigation conducted with 150 pupils to determine: First, does the achievement in subject-matter skills and information on reading, language, and arithmetic vary significantly between equated pupils in the new and old types of elementary schools? Second, do the factors of personal and social adjustment, as measured by self-descriptive tests, differ significantly in these two types of schools? Third, in what respects do the emphases relating to self-initiated contributions, cooperation, and recitation activities differ in the selected elementary schools?

Dr. Wrightstone's answer to his first question is as follows:

"The results of the achievement tests in language, reading, and arithmetic provide a tentative answer to the question of comparative attainment in the skill subjects by the elementary grade pupils under progressive and conventional

practices. Equated pupils in progressive and conventional schools, respectively, made the following average scores: in reading 76 and 74; in language 73 and 67; and in arithmetic 75 and 73.....One hypothesis implicit in the test results is that the central units of work of the progressive schools do not necessarily detract from achievement in skills in the academic areas of the curriculum.¹

The answer to the second question, dealing with personal and social adjustment, is as follows: "Results of the Self-Marking Test reveal that pupils in the progressive schools had an honesty score of 49.35, and those in the conventional schools scored 37.04.....The progressive school pupils, however, were accustomed to scoring their self-instruction materials, especially in arithmetic."²

And in the third question, on social performance factors, the following response is given: "In measuring social performance factors of the elementary school pupils, controlled-observation techniques were used for comparing certain items of social conduct of pupils under progressive and conventional teaching practices. The data were collected by trained observers.....Equated pupils in progressive and conventional schools, respectively, made the following average scores: in initiative 68 and 8; in pupil responsibility 3 and 3; in pupil curiosity 6 and 4; in pupil criticism 7 and 1; and in pupil recitation 16 and 88."³

Since the publication of this tentative report on his investigation, Dr. Wrightstone has made more extensive and more elaborate studies. These have been reported in detail in
4
educational periodicals. There is thus a considerable body of corroborative evidence to justify the conclusion stated previously, that, under the guidance of efficient teachers, pupils master the skills subjects as efficiently under enterprise techniques as under the more formal disciplines.

¹ Wrightstone, J.W. "Achievement in Conventional and Progressive Public Schools", from Progressive Education, P.389, May 1936.

² Ibid

³ Ibid

⁴ (a) Wrightstone, J.W. and Others, "Measuring Intellectual and Dynamic Factors in Activity and Control Schools in New York City, Teachers College Record, Vol.40, Pp. 237-244. Dec. 1938.

(b) Ibid. "Measuring Social Performance Factors in Activity and Control Schools in New York City", Teachers College Record, Vol.40, Pp.423-432, February 1939.

CHAPTER VI

SOME FINAL OBSERVATIONS

Since that first hectic winter, when they were struggling with the mastery of a new method of instruction, the teachers in the experimental school have learned much through study and practice. They have learned, for example, that certain types of activity are more suitable for one grade than for another; that the enterprises which evoked a desirable response the one year fell flat when presented to a different class the next year; that enterprises which have an immediate social utility, (making of bird-houses), are much more stimulating than those in which the social utility is not so evident (a study of French-Canada).

The Grade I teacher comments as follows on suitable activities for Grade I children:

"After two years' experience in enterprise education with first grade classes, it is my opinion that activities involving large, heavy construction work are not practicable. The time spent in completing such construction is too great, and the work to be done is too difficult.

The following types of activities have proved to have much educational value:

Free Art--The making of large pictures which are colored by tempera paints or calsomine.

Modelling with clay or papier mâché.

Booklet-making, using newsprint for pages and brown wrapping paper for covers.

Construction of buildings and furniture using large blocks of different shapes and sizes. Apple and orange boxes and screens may also be used.

Original stories, riddles, verses and plays

Costumes for characters in the plays.

Planting seeds, caring for plants. Caring for pets.

Play Store activities, buying and selling.

Playing House and caring for the play house.

Excursions to the University Farm, grocery store, post office, fire hall, dairy.

In Grade III enterprises such as the following were found to be most suitable:

1. Those in which real life experiences can be recapitulated:
We Build a House of Our Own. In this enterprise real life situations were reproduced. Real plaster and stucco were used on real laths, and real shingles appeared on the roof. In We Send Messages to Children Far Away, the post-boxes, radio, and mail-cars were large enough for the children to use them in dramatizing their experiences.
2. Those which have a socially useful outcome or culmination:
Making a Shadow Play to entertain others or as part of a school play; or The Building of Bird Houses which were placed in trees about the school. Nature Study enterprises which did not have such a socially useful core were relatively ineffective.
3. Those enterprises where the activities are conducted by well-organized groups working toward the culmination or goal are more desirable than those where the culmination or goal is a collection of individual tasks. The making of a Congo hut, large enough for a child to crawl into, is more interesting to the pupils than a Congo village made of many miniature huts."

The teachers in Grades V and VI contribute a lengthy list of activities for these grades. It is suggestive of the wide range of interests which may be catered to during the development of any enterprise:

1. Large type of construction, such as an airplane, a trading post, a stained-glass window.
2. Sand-table projects, such as the layout of a Saxon village, a French seignory, a demonstration of how water serves the community.
3. Friezes and murals: Story of Cortez, a modern airbase, mining operations, development of farming, development of ships from logs to ocean liners.
4. Clay modelling: Mexican pottery with designs of Indian origin.
5. Construction of looms, weapons, tools, utensils, early farm implements, and furniture.
6. Handicraft: Weaving rugs, hooking mats, carding wool, making quilts.
7. Making candles and soap by pioneer methods.
8. Large maps, animated and pictorial.
9. Books of stories and original verse suitably bound.
10. Spatter work pictures, such as story of aircraft, reproduction of plant forms.
11. Wall tapestries: Design put on cotton with wax crayon and pressed with a hot iron.
12. Cutting out and designing costumes for plays and tableaux.
13. Shadow plays.
14. Models of ships.

15. Making of clay and papier mache masks.
16. Collections of coal products, wood products, etc.
17. A movie machine.
18. Puppets and puppet stage.
19. An illuminated mediaeval book.
20. A mediaeval castle, and monastery.
21. Dramatizations: Chapter House meeting in monastery, launching of a ship, across Canada by airplane.
22. Blue print plan of a monastery.
23. Linoleum block prints for book covers.

That all schools are meeting with difficulty in developing an effective enterprise programme is generally admitted, even by the most ardent proponents of the new instructional method. The lack of sufficient suitable reading material is the most serious general handicap complained of by teachers. Teaching through activities makes the teachers conscious of the need for more related and supplemental material, because pupils' initiative, industry and demands are greatly stimulated.

To obtain objective evidence of the rural school library situation before the new programme of studies was introduced on a province wide and compulsory basis, the Alberta Teachers' Association in the fall of 1935 circulated a questionnaire which had been prepared by Mr. A. J. H. Powell. The published report of this investigation, which included the libraries of 60 rural schools, reads, in part, as follows:

"It is sufficient comment upon this very exiguous list to say that, while there are 11 identifiable books about iron and steel, there are none about aluminium or nickel; while there are 10 about silk, cottons and woollens, there are none about rayon; while there are 10 about coal and coal-mining, there are none about petroleum; while there are 10 about ships and shipyards, there are none about automobiles; while there are 11 days to be spent with leather workers, no time is wasted on rubber; while----but let us not be tedious. In spite of all the protests of governments and people about the paramount importance of education, the evidence accumulates

that our rural schools have been allowed to fall twenty-five years out of date in essential library equipment."¹

In the same report a series of 'Teachers' Comments' are pertinent and cogent:

'There is very little useful material Grades I-IX.'

'Library contains large majority of material that no Public School can find of interest.'

'We have no Geography supplementary books.'

'Many other books in the Library, but they are practically completely ruined.'

'About 450 books in our Library, very poorly selected, some over twenty years old.....Majority can be understood by adults only.'

'No new books for the past five years.'

'The Library lacks books suited to Grades II-VI, who have exhausted the few books suited to their reading ability.'

'No additions to the Library for years.'

'No books have been added since 1924'.

'Only one new book has been added.....since 1926.'

'Many books are hopelessly out of date.'

Probably this gloomy picture of the rural school library situation (and perhaps the city situation is not very much better), has been somewhat brightened since the consolidation of the small individual districts into the forty odd Divisions. Certainly until the schools have numerous books, properly graded to the age and capacity of the pupils, the enterprise programme may be compared to a powerful

¹

Powell, A.J.H. 'Sixty Rural School Libraries',
The A. T. A. Magazine, Vol. XVI, No.10, Pp. 14-17, June 1936.

automobile stuck in a snow drift,--tremendous driving power is being applied, the wheels are spinning madly, but the machine is getting nowhere.

But an even more fundamental limitation of the effectiveness of the new programme is the academic and professional equipment of the teaching personnel. The new teacher must be broad minded and broadly educated, must be a skilled classroom technician and a competent diagnostician of the needs of youth. Far more is demanded of the teacher, and, (in full recognition of their wonderful devotion to duty during a very trying period), she sacrificed herself unsparingly in her desire to measure up to the demands of the new system. Teachers-in-service, literally in thousands, have attended summer courses, where they have endeavored to learn the difficult enterprise techniques and have tried to steep themselves in the philosophy and psychology underlying the new order. In September they have gone back to their rural schools to be faced with the stark reality of a physical plant completely at variance with almost every item of their painfully, and expensively, garnered new ideas. That any inspiration survived to brighten the lives of their charges during the cold winter months is a splendid tribute to the courage, the resourcefulness and the crusading spirit of these pioneers in their campaign for a 'new deal' for the rural school.

The teacher-in-training must be selected with greater consideration for the requirements of the new curriculum. To control the new classroom she must have attained a

well-poised maturity. To adjust herself to the demands of the many problems which arise from day to day she must be resourceful and alert. To appreciate the ultimate values of the new education in the lives of the children she must be attuned intellectually and socially to the vital problems of this modern age.

Both the teacher-in-service and the new graduate must receive more effective guidance from a competent and adequate supervisory staff. No supervisor should be asked to attempt the impossible task of directing personally the activities of from seventy-five to one hundred rural schools dispersed over an area of a thousand square miles. Each rural supervisor should have at his disposal a staff of 'helping teachers' who are prepared to spend several days, if necessary, in a school where the teacher may need expert advice and guidance from someone who thoroughly understands the needs of the local situation. It is in the isolated rural school that the young graduate teacher for the first time faces a class of pupils entirely 'on her own'. There she meets with her initial successes, and makes her initial blunders. The latter may be only minor and harmless, but equally they may be seriously detrimental to the proper adjustment of the pupils under her control. This custom of banishing the new graduate to the unsupervised rural school, until she wins her spurs at the expense of innocent youth, is a relic of out-grown pioneer days. If it is to persist, then it must be counter-balanced by an improved system of

rural school supervision.

The physical equipment in the rural school, irrespective of its pitiful lack of library facilities, demands improvement. The modern classroom must be more than a rectangular box with a few fixed seats. There must be proper heating and ventilation, sanitary facilities must be consistent with the health standards advocated so piously in the curriculum, seating arrangements and floor space must be adjusted to varied activities. It is almost pitiful to read of the expedients devised by resourceful teachers to cope with the demands of an almost impossible situation: Tables hinged to the wall or hanging from the ceiling, apple-box cupboards for books, orange-crate primary chairs for the reading corner, and the varied collection of pickle jars which constitutes the science laboratory. Yet it is in such an environment that teachers are expected to, and, marvellous to relate, do carry on, in many instances, a splendid type of activity programme. The age of miracles is not yet past, and one of the minor ones is to be observed any day of the week in many Alberta rural schools.

In urban centres the physical plant is more commodious than in rural areas and, hence, usually more suitable to the new programme. The teachers are, in the main, of a superior type; they are the cream skimmed annually from the rural areas. Urban classes, however, are very large; few are under forty pupils, and many are over fifty in number. Literally, some rooms have not seating accommodation if all pupils are present. To carry on a directed and well controlled activity programme in conditions of such complete

congestion is virtually impossible. Pupils cannot move about, there cannot be group discussions, committees cannot confer or work. All the teacher can do is to initiate class activities, in which reports by pupils and discussions by the class as a whole may be stressed. That is, the recitation may be socialized, but the enterprise technique cannot be introduced. Not until the local authorities awaken to the needs of the situation and then convince the taxpayers of the necessity for increased accommodation will it be possible to correct this disgraceful overcrowding of classrooms and reduce enrolments to workable groups of about thirty pupils.

It would seem, then, in conclusion, that while the evidence adduced in this report, and corroborated by other investigations, would indicate that the enterprise curriculum does not militate against satisfactory pupil progress in the skill subjects, yet the more permanent values to be derived from the reform must wait upon readjustments largely beyond the control of the teacher. Some of these much-to-be-desired readjustments are enumerated as follows:

1. Prospective teachers must be carefully selected, and teachers-in-service must be given every encouragement and opportunity to adjust themselves sympathetically to the basic principles of the new curriculum.
2. There must be more adequate supervision of rural schools.
3. Classrooms must be provided with libraries and other necessary equipment.
4. The rural ungraded school should limit its instruction to the elementary school (Grades I-VI), except under very

exceptional circumstances.

5. Urban accommodation should be increased in order that classes may be reduced to a maximum of thirty pupils.

6. A study should be made of the desirability and feasibility of introducing certain phases of the Winnetka plan of individualized instruction as a means of regulating and directing pupil-achievement in the skill subjects.

BIBLIOGRAPHY

- Bode, B.H. Conflicting Psychologies of Learning.
D. C. Heath & Co., N. Y., 1932.
- Bode, B.H. Progressive Education at the Crossroads.
Newson & Co., N. Y., 1938.
- California State Department of Education, Teachers' Guide to Child Development in the Intermediate Grades.
California State Dept. of Education, Sacramento, 1936.
- Everett, S. The Community School. Appleton-Century Co., N.Y., 1938.
- Ferrier, A. The Activity School. John Day Co., N. Y., 1927
- Gustin, M. & Hayes, M.L. Activities in the Public School.
University of North Carolina Press, 1934.
- Hildreth, G. Learning the Three R's. Educational Publishers
N. Y., 1938.
- Horrall, A.H., Codone, L.E., Willson, M.S., Rhodes, L.S.
Let's Go to School. McGraw-Hill Book Co., N. Y.
1938.
- Lane, R.H. A Teachers' Guidebook to the Activity Program.
Macmillan & Co., Toronto, 1932.
- Lane, R.H. The Progressive Elementary School. Houghton
Mifflin Co., 1937.
- McGaughy, J.R. An Evaluation of the Elementary School.
Bobbs, Merrill Co., 1938.
- Melvin, A.G. The Activity Program. Reynal & Hitchcock,
N. Y., 1936.
- Melvin, A.G. The Technique of Progressive Teaching.
John Day Co., New York, 1932.
- Murchison, O. Psychologies of 1925. Clark University Press,
Worcester, Mass.
- National Society for the Study of Education, The Activity Movement, Thirty-Third Yearbook; Part II,
Public School Publishing Co., Bloomington, Ill.,
1934.

Porter, M.P. The Teacher in the New School. World Book Co.,
Yonkers-on-Hudson, N. Y., 1931.

Progressive Education Association, Science in General
Education. Appleton-Century, N. Y., 1938.

Ruediger, W.C. Teaching Procedures. Houghton Mifflin Co.,
1932.

Rugg, H. & Shumaker, A. The Child Centered School.
World Book Co., Yonkers-on-Hudson, N. Y.,
1928.

Zyve, C.T. Willingly to School. Round Table Press, N. Y.
1937.

APPENDIX I

ACHIEVEMENT OF GRADE I PUPILS IN THE EXPERIMENTAL SCHOOL ON THE METROPOLITAN ACHIEVEMENT TESTS IN MAY

Detroit First Grade Intelligence Test

	C.A.	M.A.	I.Q.	Average Reading	Numbers	Total Average
1.	6.2	8.1	130	1.6	2.7	1.9
2.	6.6	8.1	124	2.3	2.7	2.4
3.	6.4	7.11	124	3.4	3.5	3.4
4.	6.7	7.9	130	3.1	3.2	3.1
5.	6.5	7.8	119	1.8	2.7	2.1
6.	6.10	7.8	112	2.6	3.0	2.7
7.	6.4	7.7	119	3.0	3.0	3.0
8.	6.6	7.7	116	2.6	2.8	2.7
9.	5.11	7.4	123	1.9	2.6	2.1
10.	6.2	7.3	117	2.0	2.8	2.2
11.	6.5	7.3	112	2.5	2.3	2.4
12.	6.6	7.3	111	2.6	3.0	2.7
13.	6.4	7.2	113	2.6	3.0	2.7
14.	5.11	7.1	119	1.2	2.6	1.6
15.	6.6	7.1	108	2.0	2.4	2.1
16.	5.11	6.8	112	1.9	2.6	2.1
17.	6.8	6.6	100	2.1	2.6	2.2
18.	6.0	6.5	106	2.3	2.8	2.4
19.	5.8	6.4	111	2.2	2.2	2.2
20.	6.10	6.1	89	1.6	2.3	1.8
21.	6.6	5.6	84	1.3	2.9	1.7
Q1	6.1	6.10	110.2	1.9	2.6	2.1
Q2	6.3	7.4	115.0	2.2	2.7	2.2
Q3	6.8	7.9	119.8	2.6	2.10	2.7

ACHIEVEMENT OF GRADE I PUPILS IN THE CONTROL SCHOOL ON
THE METROPOLITAN ACHIEVEMENT TESTS IN MAY

Detroit First Grade
Intelligence Test

	C.A.	M.A.	I.Q.	Average Reading	Numbers	Total Average
1.	6.1	8.4	137	2.8	3.0	2.8
2.	6.4	8.3	129	2.8	3.3	2.9
3.	6.8	8.3	122	1.6	3.2	2.0
4.	6.7	8.1	120	3.1	3.1	3.1
5.	5.11	7.10	138	2.6	3.0	2.7
6.	5.9	7.9	133	1.4	2.7	1.7
7.	6.4	7.9	123	3.0	3.1	3.0
8.	6.7	7.8	116	2.0	3.2	2.3
9.	6.9	7.7	111	2.5	3.2	2.7
10.	5.11	7.6	148	3.2	3.0	3.1
11.	6.4	7.6	118	1.9	3.2	2.2
12.	6.7	7.6	113	2.2	3.0	2.4
13.	7.7	7.6	99	3.0	3.1	3.0
14.	7.7	7.6	99	2.7	3.2	2.8
15.	6.9	7.4	107	2.9	3.2	2.9
16.	7.1	7.3	102	2.0	3.1	2.3
17.	5.11	7.2	121	1.9	2.9	2.1
18.	6.2	7.2	116	2.7	3.0	2.8
19.	6.2	7.2	116	2.1	2.7	2.2
20.	7.1	7.2	101	2.8	3.1	2.9
21.	6.2	7.1	114	2.7	2.8	2.7
22.	6.2	7.1	114	2.7	3.0	2.7
23.	6.3	6.10	109	2.3	3.2	2.5
24.	7.0	6.10	87	2.8	2.9	2.8
25.	5.9	6.8	115	1.3	1.7	1.1
26.	6.1	6.7	109	2.0	2.1	2.0
27.	5.10	6.5	127	2.2	3.1	2.4
28.	5.11	5.6	93	1.4	2.0	1.6
29.	6.10	5.0	82	2.1	2.2	2.1
Q1	6.0	7.0	104.5	2.0	2.9	2.2
Q2	6.5	7.5	115	2.5	3.0	2.7
Q3	6.11	7.10	124.6	2.8	3.2	2.8

ACHIEVEMENT OF GRADE II PUPILS IN THE EXPERIMENTAL SCHOOL ON
THE METROPOLITAN ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Detroit Advanced First Grade Intelligence Test													
C.A. M.A. I.Q.			Total	Average	Average	Reading	Average	Arithmetic	Language	Usage	Spelling		
			Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	
1.	8.5	10.10	128	2.7	3.3	3.0	3.6	2.6	3.0	3.0	3.2	2.3	3.2
2.	8.0	10.2	126	3.0	3.6	3.5	4.3	2.4	3.0	3.7	4.0	2.3	3.0
3.	7.8	10.1	131	2.9	3.4	3.5	4.5	2.6	2.5	3.0	3.3	2.3	3.4
4.	7.4	10.0	136	2.8	3.7	2.7	4.9	2.7	3.4	4.0	4.0	2.2	3.1
5.	7.5	9.10	132	3.1	3.7	4.1	4.8	2.4	2.9	3.8	3.8	2.0	3.3
6.	7.1	9.7	135	3.4	3.8	4.1	4.9	2.5	3.9	4.2	3.3	3.3	4.2
7.	8.1	9.7	118	3.0	3.7	3.6	4.7	2.6	3.0	3.8	3.5	2.0	3.0
8.	7.11	9.6	120	2.5	3.3	2.5	3.7	2.8	3.2	2.4	3.2	2.0	2.7
9.	7.5	9.6	128	3.0	4.0	3.4	4.8	2.6	3.2	2.9	3.8	2.8	4.2
10.	7.11	9.6	120	3.2	3.6	3.7	4.6	2.6	2.8	3.7	3.5	2.7	3.5
11.	7.8	9.3	120	2.5	3.5	2.8	4.0	2.3	2.9	3.0	3.8	2.0	3.3
12.	8.6	9.3	109	2.7	3.3	2.7	4.4	2.6	2.2	3.2	3.7	2.3	3.1
13.	7.4	9.1	124	3.3	3.5	3.7	3.1	2.8	2.7	4.1	3.7	2.5	3.8
14.	7.6	9.0	120	2.5	3.4	2.6	3.7	2.5	3.4	2.6	3.2	2.1	3.2
15.	7.4	8.11	121	2.3	2.9	2.3	3.5	2.0	2.5	3.0	3.0	2.2	2.7
16.	7.9	8.9	113	3.5	4.0	4.0	4.9	2.6	3.0	4.1	4.3	3.5	4.2
17.	8.0	8.9	109	2.2	3.2	2.1	3.6	2.1	2.7	2.6	3.8	2.2	2.6
18.	7.0	8.9	124	3.3	4.0	3.8	4.8	2.3	3.0	3.8	4.0	3.5	4.5
19.	7.8	8.9	114	2.5	3.5	2.9	4.4	2.5	3.0	2.7	3.3	2.0	2.7
20.	7.6	8.9	116	1.6	2.8	1.9	3.2	2.0	2.7	0.0	2.9	1.8	2.3
21.	8.3	8.9	106	2.7	3.2	3.2	4.1	2.2	2.7	3.3	3.5	1.9	2.5
22.	7.7	8.7	113	3.0	3.6	3.5	4.5	2.4	2.8	3.7	3.8	2.3	3.3
23.	7.11	8.6	107	2.3	3.1	2.5	3.5	1.9	2.9	2.8	3.2	1.8	3.1
24.	7.10	8.5	107	2.8	3.6	3.2	4.3	2.6	3.3	3.0	3.3	2.4	3.5
25.	7.4	8.4	113	2.0	2.9	2.2	3.4	1.8	2.6	2.2	2.9	1.8	2.3
26.	7.4	8.3	112	2.5	3.7	2.7	4.6	2.3	3.0	2.9	3.8	2.2	3.6
27.	7.4	8.3	112	3.2	3.9	4.2	4.7	2.6	3.2	3.2	4.0	2.4	3.4
28.	6.11	7.8	110	2.0	3.2	1.9	3.6	2.0	2.7	2.1	3.5	2.0	3.4
29.	7.6	7.1	94	1.2	2.5	0.6	2.6	2.1	2.6	0.0	2.4	1.7	2.3
30.	7.1	7.1	100	2.4	3.5	2.3	4.4	2.5	2.6	2.2	3.7	2.3	3.2
31.	7.10	7.0	89	2.4	3.1	2.4	3.7	2.6	2.7	2.4	3.2	1.10	2.9
Q1	7.3	8.3	109.6	2.4	3.2	2.4	3.6	2.2	2.7	2.7	3.2	2.0	2.7
Q2	7.8	8.11	118.3	2.7	3.5	2.9	4.3	2.5	2.9	3.0	3.7	2.2	3.2
Q3	7.11	9.8	126.3	3.0	3.6	3.6	4.6	2.6	3.0	3.8	3.8	2.4	3.5

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ACHIEVEMENT OF GRADE III PUPILS IN THE EXPERIMENTAL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale			Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.			NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay			
1.	9.2	11.4	124	38	49	15	28	9	15	58	52	64	66	184	210							
2.	8.5	11.0	132	55	60	14	32	17	26	60	74	69	74	216	266							
3.	9.10	10.10	110	43	46	9	32	14	23	50	58	53	54	169	213							
4.	8.4	10.5	125	31	50	10	24	6	13	56	44	59	59	162	190							
5.	8.8	10.4	120	49	55	17	30	14	15	62	60	53	63	195	223							
6.	8.10	10.3	116	35	51	13	30	13	19	58	58	67	70	186	228							
7.	8.0	10.1	125	33	44	7	26	6	16	52	58	59	59	157	203							
8.	8.0	10.0	124	43	49	9	31	10	17	62	54	65	70	189	221							
9.	8.11	10.0	112	42	50	13	27	10	16	64	55	62	68	191	216							
10.	8.0	9.11	123	37	47	11	26	13	19	58	61	64	66	183	219							
11.	8.1	9.4	115	38	38	11	22	6	11	42	52	47	49	144	172							
12.	8.10	9.4	106	39	51	11	26	12	17	74	62	68	67	204	223							
13.	8.9	9.3	106	40	31	10	23	9	16	49	32	62	66	170	168							
14.	8.2	9.1	111	36	38	6	25	7	12	40	40	40	48	129	163							
15.	9.11	8.11	90	29	38	11	28	11	15	33	48	51	58	135	187							
16.	8.2	8.9	107	35	38	9	25	6	12	52	56	62	58	164	189							
17.	8.7	8.9	102	22	23	4	13	4	11	26	46	37	29	93	122							
18.	8.6	8.7	101	20	25	8	13	8	12	27	36	42	50	105	136							
19.	8.9	8.7	98	30	38	7	19	15	13	62	50	59	62	173	182							
20.	8.7	8.5	98	30	33	4	27	4	7	28	48	57	58	123	173							
21.	8.7	8.1	94	34	33	10	26	10	14	48	58	59	56	161	187							
22.	8.4	8.0	96	35	40	10	26	7	15	48	46	58	66	158	193							
23.	8.7	8.0	93	18	25	10	26	5	15	40	34	40	46	113	146							
24.	8.5	7.10	93	30	36	9	24	6	14	38	42	54	60	137	176							
25.	9.2	7.8	84	32	43	12	25	8	16	60	58	59	59	171	201							
26.	8.2	7.0	86	22	20	8	19	5	10	36	17	48	53	119	119							
27.	8.4	7.0	84	19	23	10	23	4	9	48	33	50	50	131	138							
28.	8.10	7.0	78	20	19	12	21	6	12	50	39	43	47	131	138							
29.	8.11	7.0	78	27	30	11	27	7	21	52	48	57	62	154	188							
30.	7.10	6.11	88	29	34	6	21	3	8	36	33	47	54	121	150							
31.	8.9	6.10	78	12	27	7	17	7	10	30	41	47	49	103	144							
32.	8.6	6.9	80	17	18	8	20	3	7	47	46	36	53	111	144							
33.	8.0	6.5	80	8	23	4	9	2	4	35	37	55	47	104	120							
Q1		7.9	88.8	23.3	26.5	8.1	21.5	6.1	11.6	38.5	40.3	47.3	50.6									
Q2		8.9	101	33	38.6	10.3	25.8	7.7	14.4	49.8	49.0	57.1	58.3									
Q3	10.1		117.5	38.6	46.8	11.8	27.7	11.4	16.9	59.2	58.3	60.8	66.4									
														179.2	155.0	124.2						
														211.9	183.0	147.5						

ACHIEVEMENT OF GRADE III PUPILS IN THE CONTROL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale				Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.				NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay			
1.	9.10	11.6	117	28	29	31	30	17	16	46	30	49	48	171	153								
2.	10.0	10.7	106	31	32	24	27	20	15	46	42	62	56	183	172								
3.	8.3	10.2	123	32	42	27	32	15	17	56	62	63	70	193	223								
4.	8.1	10.0	123	27	39	25	35	10	19	48	47	70	73	180	213								
5.	8.6	10.0	117	43	41	29	32	16	21	50	62	67	69	205	225								
6.	8.3	9.11	120	21	33	17	32	12	16	44	57	56	61	150	199								
7.	8.7	9.9	113	42	49	24	33	12	15	58	46	64	64	200	207								
8.	8.10	9.9	110	26	29	29	27	15	18	64	50	62	66	196	190								
9.	11.5	9.6	84	21	20	19	23	8	11	33	30	40	38	121	122								
10.	8.8	9.5	108	20	10	23	31	7	16	18	10	41	54	109	121								
11.	8.3	9.3	112	31	31	19	28	11	15	48	40	51	64	160	178								
12.	8.3	9.3	112	49	53	23	28	15	15	67	60	56	61	210	217								
13.	9.0	9.3	102	31	38	20	24	6	16	50	44	57	61	164	183								
14.	8.5	9.0	107	22	26	18	25	8	10	30	19	50	58	128	138								
15.	8.8	8.9	102	39	44	28	30	18	19	50	58	60	69	195	220								
16.	9.0	8.7	95	34	42	21	24	9	13	52	33	51	67	167	179								
17.	10.5	8.4	80	25	25	18	28	7	13	44	27	45	58	139	151								
18.	8.1	8.3	102	20	30	19	23	7	12	38	42	52	57	136	164								
19.	8.1	8.1	100	16	19	19	25	7	13	20	16	42	46	104	119								
20.	8.1	7.9	96	33	33	22	29	11	14	30	36	56	59	152	171								
21.	8.10	7.9	88	24	30	17	27	12	16	30	27	43	54	126	154								
22.	8.2	7.3	88	22	32	12	22	5	10	41	45	46	51	126	160								
23.	9.9	7.2	73	10	21	17	14	10	11	15	21	41	40	93	107								
24.	9.1	6.9	74	18	20	20	28	11	13	30	26	51	60	130	147								
Q3		9.11	115.0	33.0	40.0	25.3	31.3	14.7	17.3	51.3	48.0	61.0	66.0	190.0	200.0								
Q2		9.3	105.0	27.0	32.0	21.3	28.4	11.2	15.2	46.0	42.0	53.3	60.0	160.0	172.5								
Q1		8.2	88.0	21.5	26.0	18.7	25.0	8.0	12.8	31.3	27.3	46.5	55.0	127.5	150.0								

ACHIEVEMENT OF GRADE IV PUPILS IN THE EXPERIMENTAL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale				Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.				Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May		
1.	9.0	13.0	143	39	46	35	35	21	26	52	58	65	66	212	231								
2.	9.6	13.0	136	41	59	32	40	17	27	66	73	69	71	225	270								
3.	9.1	12.4	124	48	57	36	35	18	27	72	66	73	74	247	259								
4.	9.6	12.1	126	43	45	23	27	14	19	56	58	61	68	197	217								
5.	8.6	12.0	140	37	42	18	32	11	17	40	44	55	59	161	194								
6.	9.4	12.0	132	46	49	28	36	20	28	56	60	73	71	223	244								
7.	9.6	11.8	121	30	43	25	39	17	29	70	60	72	73	204	244								
8.	11.10	11.7	98	47	41	22	35	14	25	54	58	62	67	199	226								
9.	10.4	11.2	110	36	48	27	36	19	24	46	32	61	62	189	202								
10.	9.1	10.9	118	39	35	19	29	12	16	54	46	67	67	191	193								
11.	11.6	10.8	91	33	33	22	25	12	17	44	52	53	54	164	181								
12.	9.11	10.6	110	37	38	30	42	18	26	58	56	65	67	208	229								
13.	9.10	10.6	110	26	29	22	32	13	22	45	40	58	58	164	181								
14.	9.11	10.6	110	25	34	19	39	15	22	30	40	61	59	150	194								
15.	9.11	10.6	110	31	36	28	34	10	15	51	60	67	66	187	211								
16.	10.11	9.6	91	32	30	27	30	9	14	36	34	63	69	167	177								
17.	9.3	9.3	100	15	23	23	36	14	21	37	41	55	58	144	179								
18.	9.0	9.2	100	34	27	27	33	3	12	26	33	61	61	151	166								
19.	10.1	9.0	90	32	27	17	35	9	18	46	36	52	59	156	175								
20.	8.5	8.9	106	43	48	26	32	7	13	55	66	59	62	190	221								
21.	9.0	8.6	95	36	44	16	24	13	18	48	50	45	63	158	199								
22.	10.4	8.6	85	26	45	17	30	5	11	42	52	54	65	144	203								
Q1		9.8	101.3	31.5	33.0	19.7	31.5	8.5	16.3	43.0	41.0	56.5	59.7	158.8	187.5								
Q2		10.8	113.3	36.5	42.0	24.0	34.4	14.0	20.0	50.0	53.0	61.8	66.0	185.0	205.0								
Q3		12.0	127.5	41.0	47.0	28.5	37.0	17.5	26.3	56.5	60.3	66.8	68.8	202.5	228.3								

ACHIEVEMENT OF GRADE IV PUPILS IN THE CONTROL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale				Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.				NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay			
1.	9.4	12.3	131	44	47	32	33	19	24	64	68	70	69	229	241						
2.	9.4	12.1	129	34	42	21	23	18	21	46	40	59	64	178	190						
3.	9.0	11.4	126	35	38	26	32	17	22	48	42	66	70	192	204						
4.	13.3	10.9	81	35	24	24	23	16	12	28	33	48	41	151	133						
5.	11.10	10.8	90	47	48	26	31	13	20	52	46	64	59	202	204						
6.	9.7	10.8	108	40	46	24	28	16	17	62	62	71	72	213	225						
7.	10.5	10.4	100	23	37	23	24	15	20	20	30	62	65	142	176						
8.	8.10	10.2	115	40	39	29	33	17	25	54	44	64	67	204	208						
9.	10.0	10.1	100	38	27	28	28	17	16	60	56	63	68	206	195						
10.	9.4	10.0	107	29	33	30	31	18	19	42	27	53	57	172	167						
11.	8.11	9.7	107	44	53	23	30	10	17	54	64	60	67	191	231						
12.	9.2	9.3	100	28	32	18	30	11	21	51	38	40	52	148	173						
13.	8.3	8.8	105	25	31	29	24	17	19	0	26	55	62	126	162						
14.	10.4	8.8	84	28	29	22	25	7	9	62	50	65	71	184	184						

Q3 Q2 Q1

10.11	10.5	9.9
115.0	105.7	102.1
41.5	35.3	29.0
46.5	38.0	31.0
29.0	26.0	23.0
31.8	30.0	25.0
17.8	16.7	13.0
21.8	20.0	17.0
62.5	54.0	47.0
57.0	44.0	33.0
65.6	63.0	55.5
69.3	66.0	58.5
205.0	190.0	155.0
208.3	195.0	172.5

ACHIEVEMENT OF GRADE V PUPILS IN THE EXPERIMENTAL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale				Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.				Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May		
1.	11.1	16.1	106	58	58	35	46	23	30	64	72	96	104	276	310								
2.	11.3	15.1	134	57	57	30	43	23	28	56	66	95	97	261	291								
3.	10.5	14.9	141	54	57	43	52	25	34	60	72	82	86	264	301								
4.	10.5	14.9	141	56	58	39	50	27	34	66	72	86	96	274	310								
5.	9.11	14.5	150	56	56	36	45	29	31	64	72	81	96	266	300								
6.	10.8	14.5	135	55	54	35	42	22	28	52	64	86	93	250	281								
7.	10.4	14.3	138	39	56	36	43	23	30	66	70	88	96	252	295								
8.	10.2	14.1	138	52	56	41	50	24	30	56	72	85	88	258	296								
9.	10.9	13.9	128	44	59	34	46	23	29	62	64	87	92	250	290								
10.	10.8	13.8	128	48	56	39	44	24	31	62	64	86	97	259	292								
11.	11.0	13.6	123	52	56	33	42	20	32	62	66	83	96	250	292								
12.	11.4	13.3	117	46	52	33	38	18	21	62	56	61	63	220	230								
13.	10.6	13.0	124	51	57	26	42	24	30	56	62	59	83	216	274								
14.	10.6	13.0	124	45	55	31	42	20	21	60	58	70	83	226	259								
15.	10.5	12.8	122	40	47	38	48	21	27	64	62	75	87	238	271								
16.	11.9	12.8	108	53	54	38	39	29	31	54	50	76	74	250	248								
17.	10.5	12.7	121	43	50	31	41	21	23	52	62	73	83	220	259								
18.	11.1	12.5	112	42	55	30	39	15	22	58	62	62	71	207	249								
19.	10.2	12.4	121	51	59	34	46	33	35	64	62	77	76	259	278								
20.	10.5	12.4	118	40	50	33	42	23	30	46	62	74	80	216	264								
21.	10.7	12.3	116	39	47	29	44	17	23	48	62	70	82	203	258								
22.	11.6	12.3	106	44	51	24	41	18	22	62	62	79	83	227	259								
23.	10.10	12.2	112	47	48	28	38	11	18	64	40	69	71	219	215								
24.	10.1	11.9	116	42	50	21	41	17	21	62	64	68	86	210	262								
25.	9.8	11.8	120	53	54	31	49	20	32	60	62	87	95	251	292								
26.	10.3	11.8	113	42	48	21	33	6	14	58	64	63	85	190	244								
27.	10.3	11.4	111	40	47	32	41	16	21	58	58	68	78	214	245								
28.	10.6	11.3	107	46	56	23	42	23	25	52	64	68	86	212	273								
29.	11.0	10.9	100	34	49	27	43	18	23	56	46	49	62	184	223								
30.	12.2	10.9	89	33	39	22	29	10	10	40	50	56	66	161	194								
31.	10.11	10.8	98	41	47	32	42	18	26	48	48	68	79	207	242								
32.	11.6	10.3	89	44	56	24	38	15	22	42	62	60	76	185	254								
33.	13.11	10.3	73	36	50	32	39	20	25	42	38	69	69	199	221								
Q1		11.8																					
			110.3	41.6	50.1	26.3	40.3	18.1	22.4	53.5	59.3	66.9	76.9	210.4	246.5								
Q2		12.10																					
			120.6	45.8	55.0	32.5	42.9	21.5	27.5	59.7	63.5	74.3	83.7	226.3	267.5								
Q3		13.11																					
			129.7	52.9	57.2	35.9	45.8	23.9	31.2	63.6	65.9	84.6	94.1	256.4	293.9								

ACHIEVEMENT OF GRADE V PUPILS IN THE CONTROL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale			C.A.		M.A.		I.Q.		Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
			Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May		
1.	10.0	14.6	145	53	58	29	39	25	36	64	72	79	89	250	294													
2.	10.6	14.5	137	56	57	35	43	26	34	62	58	82	83	261	275													
3.	10.4	13.8	132	43	45	36	40	26	28	62	56	73	85	240	254													
4.	10.6	13.7	129	41	45	33	48	23	30	62	66	78	83	237	272													
5.	10.4	13.5	130	41	60	32	42	16	23	60	54	85	93	234	272													
6.	10.9	13.5	123	52	57	35	43	27	34	50	50	80	85	244	269													
7.	10.5	13.1	125	33	45	33	44	23	29	58	58	79	87	226	263													
8.	10.4	12.6	120	56	60	35	42	25	31	54	54	75	90	245	277													
9.	10.0	12.4	123	47	57	21	36	23	29	60	52	81	86	232	260													
10.	10.2	12.4	121	35	49	36	36	17	26	56	64	72	73	216	248													
11.	9.7	12.0	125	43	55	33	43	24	25	66	60	93	95	259	278													
12.	15.4	12.0	78	38	29	30	32	15	20	33	22	58	56	174	159													
13.	11.1	11.9	106	40	51	30	39	19	28	46	48	62	77	197	243													
14.	11.9	11.7	98	43	50	25	37	23	27	44	42	79	75	214	231													
15.	9.6	11.6	120	46	50	28	44	24	27	58	60	87	93	243	271													
16.	9.8	11.5	118	38	46	28	38	17	20	54	48	74	83	211	235													
17.	9.8	11.4	117	44	54	31	37	22	26	52	58	79	74	228	249													
18.	10.2	11.3	110	38	42	29	39	15	24	36	30	67	74	185	209													
19.	9.9	11.1	113	35	46	31	39	19	27	46	64	67	79	198	255													
20.	11.3	11.1	98	28	25	18	33	16	15	36	42	74	78	172	193													
21.	9.7	11.0	115	41	37	25	41	23	32	44	62	74	77	207	249													
22.	14.9	10.9	73	25	20	34	39	24	24	41	22	73	71	197	176													
23.	11.0	10.8	97	37	38	30	43	18	25	56	50	74	78	215	234													
24.	14.1	10.5	74	26	26	15	28	8	17	24	38	63	63	136	172													
25.	10.0	10.0	100	34	28	33	40	19	25	50	52	71	79	207	224													
26.	12.2	9.6	78	38	37	23	36	12	18	42	64	58	71	173	226													
Q1		11.2	98.3	35.7	37.5	28.3	37.4	17.2	24.1	44.5	48.5	69.5	74.5	195.0	227.5													
Q2		11.11	118	40.5	47.0	31.2	39.7	22.3	26.8	54.0	55.0	74.6	80.3	217.5	247.5													
Q3		13.2	126.9	45.0	55.5	33.8	42.8	24.6	29.8	60.5	61.5	80.2	86.5	241.3	270.8													

ACHIEVEMENT OF GRADE VI PUPILS IN THE EXPERIMENTAL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale			C.A.		M.A.		I.Q.		Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
			Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May	Nov	May
1.	11.5	15.8	132	51	59	42	64	27	36	68	70	101	91	289	320													
2.	11.1	15.5	139	49	52	44	65	25	32	58	70	96	88	272	307													
3.	11.8	15.4	132	53	53	50	65	32	35	78	64	86	91	299	308													
4.	12.4	15.3	124	53	56	40	59	28	38	74	70	97	100	292	323													
5.	11.0	15.2	137	47	54	44	69	28	37	68	67	105	100	292	327													
6.	11.2	14.4	128	52	54	40	62	25	38	64	62	88	95	269	311													
7.	11.4	14.4	127	59	57	39	59	28	32	68	63	89	98	283	309													
8.	11.4	14.3	126	42	53	42	62	24	33	68	66	81	85	257	299													
9.	11.6	14.0	122	42	58	40	60	28	36	60	70	90	98	260	322													
10.	10.5	13.8	131	57	54	44	64	31	36	72	68	102	105	306	327													
11.	11.8	13.8	118	49	57	50	65	31	34	58	64	106	112	294	332													
12.	11.8	13.8	117	49	53	50	64	27	39	54	53	84	95	264	304													
13.	12.7	13.8	108	45	58	41	57	25	33	46	50	80	82	237	280													
14.	11.7	13.7	117	45	58	41	56	23	33	44	56	85	84	238	287													
15.	13.1	13.7	104	35	51	37	49	20	30	58	64	89	78	239	272													
16.	11.6	13.6	117	44	56	34	57	26	30	50	42	82	81	236	266													
17.	12.2	13.5	110	57	58	45	66	33	35	62	68	106	100	303	327													
18.	11.0	13.4	121	51	54	49	63	30	31	58	62	93	94	281	304													
19.	12.8	13.3	105	40	52	35	53	23	31	52	55	78	85	228	276													
20.	11.6	13.2	114	39	48	35	55	22	25	54	58	104	100	254	286													
21.	10.11	13.0	119	54	58	44	56	28	37	48	60	76	93	250	304													
22.	10.10	12.9	117	49	54	38	48	21	28	64	58	79	84	251	272													
23.	14.7	12.7	86	50	49	40	54	22	28	62	58	85	92	259	281													
24.	12.0	12.4	103	35	47	38	63	26	34	56	64	79	77	234	285													
25.	12.1	12.2	100	43	49	42	67	31	31	62	66	86	89	264	302													
26.	11.4	11.9	103	45	56	29	50	23	21	64	62	75	67	236	256													
27.	11.5	11.5	100	42	54	36	61	25	29	56	60	76	83	235	287													
28.	11.7	11.4	97	47	53	38	59	24	29	64	66	92	93	265	300													
			Q1		Q2		Q3																					
			14.6		13.7		13.0																					
			126.7		116.3		106.7																					
			52.0		48.0		43.5																					
			57.6		55.0		52.7																					
			44.8		41.3		38.5																					
			64.7		61.0		56.5																					
			29.6		26.5		24.0																					
			36.4		33.2		30.4																					
			67.0		62.0		56.0																					
			67.5		64.0		59.3																					
			97.5		86.4		80.3																					
			97.0		92.0		84.6																					
			286.7		262.0		238.6																					
			320.0		302.5		283.3																					

ACHIEVEMENT OF GRADE VI PUPILS IN THE CONTROL SCHOOL
ON THE PUBLIC SCHOOL ACHIEVEMENT TESTS IN NOVEMBER AND MAY

Illinois General Intelligence Scale					Reading		Arithmetic		Computation		Arithmetic		Reasoning		Language		Usage		Spelling		Total		Achievement	
C.A. M.A. I.Q.					NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay		NovMay			
1.	10.5	15.4	147	57	55	50	68	32	38	56	63	86	96	281	320									
2.	12.3	15.4	125	54	57	43	57	28	31	70	68	83	90	278	303									
3.	11.8	15.1	129	51	56	46	67	29	35	56	58	81	102	263	318									
4.	11.6	14.8	127	57	61	25	58	28	36	68	66	100	105	278	326									
5.	12.1	14.8	113	44	57	50	61	32	37	72	72	88	95	286	322									
6.	10.5	14.6	139	47	52	44	59	29	29	58	64	84	95	262	299									
7.	13.2	14.6	110	52	58	42	59	25	34	58	46	77	77	254	274									
8.	11.4	14.2	125	45	49	47	58	27	29	58	58	80	90	257	284									
9.	13.10	14.2	102	58	51	44	55	30	32	50	50	88	92	270	280									
10.	12.3	14.1	115	53	58	40	53	28	34	58	68	75	84	254	297									
11.	10.7	13.9	130	51	59	35	60	29	35	66	72	80	90	261	316									
12.	11.0	13.8	123	54	56	44	62	32	32	58	60	102	104	290	314									
13.	11.1	13.8	123	58	57	43	60	25	30	62	66	87	99	275	312									
14.	11.0	13.8	123	40	54	42	54	24	30	68	54	85	98	259	290									
15.	14.9	13.1	88	39	45	40	59	20	29	54	48	79	78	232	259									
16.	10.7	13.0	123	38	45	37	58	28	31	62	67	77	84	242	285									
17.	13.5	13.0	97	57	55	49	57	31	36	58	43	75	85	270	276									
18.	11.6	12.7	109	37	53	37	53	23	28	62	62	81	81	240	277									
19.	11.3	12.3	109	53	57	47	63	35	30	60	66	94	97	289	313									
20.	10.9	12.2	113	45	45	43	62	31	32	52	54	89	97	260	290									
21.	12.11	11.8	90	37	39	40	58	31	30	40	52	62	60	210	239									
22.	13.6	11.3	83	35	50	32	46	13	19	42	52	82	93	204	260									
23.	11.9	11.0	96	41	50	43	50	24	27	56	42	86	93	250	262									
24.	12.6	10.7	88	35	44	36	53	27	28	55	54	72	76	225	255									
Q1		12.8																						
			103.3	41.0	50.0	38.0	55.0	25.5	29.6	56.0	53.0	78.0	85.0	250.0	273.3									
Q2		13.9																						
			120.0	50.0	54.7	42.7	58.8	29.0	31.7	59.0	60.0	83.3	93.0	262.5	292.5									
Q3		14.7																						
			130.0	55.0	57.3	46.0	61.3	31.2	35.0	63.3	67.0	87.8	98.3	276.0	314.0									

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521	522	523	524	525	526	527	528	529	530
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581	582	583	584	585	586	587	588	589	590
591	592	593	594	595	596	597	598	599	600
601	602	603	604	605	606	607	608	609	610
611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650
651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670
671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690
691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710
711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730
731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750
751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780
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841	842	843	844	845	846	847	848	849	850
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861	862	863	864	865	866	867	868	869	870
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881	882	883	884	885	886	887	888	889	890
891	892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920
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941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960
961	962	963	964	965	966	967	968	969	970
971	972	973	974	975	976	977	978	979	980
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991	992	993	994	995	996	997	998	999	1000

APPENDIX II

TYPE ENTERPRISES DEVELOPED DURING 1935-36

Grade I (Miss M.A. Crozier)

Title: We Entertain Little Visitors from Out of Town

Motivation: Children talked about visitors to their homes during the Christmas holidays.

Preparation: Free discussion for several days. Pictures, books, etc. relating to the enterprise were brought by the pupils. Pupils thus caught the spirit of the enterprise.

Problems and Committees:

- I. To show how we will invite our visitors.
- II. To show how we will welcome them when they arrive.
- III. To show how we will entertain our guests:
 - (a) When we are indoors
 - (b) When we are out-of-doors.
- IV. To show how we take them to the zoo.
- V. To show how we take them to the airport.

Learnings:

- I. Reading: New sight words and phrases, as, visit, visitor, welcome, host, hostess, guest, names of things used in setting table, furniture in living room, skating, skipping, names of animals, etc.
- II. Many new stories told to entertain the guests. New poems were learned.
- III. Music: Songs were used in singing games, etc.
- IV. Number: Many new terms in number language were introduced; new combinations and separations, how to measure, use of money to buy street-car tickets to go to the zoo, etc.
- V. Art and Handwork: New folding, modelling, cutting and pasting, sawing, nailing, tying, etc.
- VI. Polite forms of speech and behavior in different social situations.
- VII. Handwriting: New letter and word forms.
- VIII. Physical Training: Singing Games and Story Plays.
- IX. Health: Cleanliness and care when travelling, washing hands, brushing teeth, playing out-of-doors and in the sunshine.

- X. Activities: Matching exercises. Oral Composition. Discussions. Making reports. Giving invitations. Receiving and acknowledging invitations. Multiple choice exercises. Making riddles. Original verses. Free art. Modelling. Cutting and pasting. Paper folding and construction. Lettering. Dramatization.

Group Activities:

- I. Three rooms of a house were arranged and furnished in the classroom.
- II. A zoo was built with cages and pens.
- III. An air port, consisting of a hanger three feet in height, and an airplane large enough to hold a pilot and passenger, were constructed.
- IV. A birthday party table was arranged and decorated.

Culmination: The culmination took the form of a birthday with real sandwiches, and a real birthday cake with candles.

Outcomes: There was an increase in reading ability and in language expression. Pupils developed greater manual control in cutting, folding and modelling. There was an improvement in pupil cooperation and initiative and responsibility.

Grade II (Miss M.E. MacIver)

Title: We Play House

Aim: To lead the children to realize the dependence of each household on the workers of the community.

Procedure:

- I. Motivation: A discussion of the play activities of the children, especially playing house.
- II. Prospect: A play written by the pupils, and produced at the culmination.

Problem: Planning the play

- I. Community workers with whom pupils are familiar.
- II. Those to be incorporated in the play: milkman, baker, postman, carpenter, coalman, newsboy, maid, Chinese laundryman.
- III. Committees for each occupation and for stage setting.

Problem II: The milkman: What the milkman wears, what he carries, his wagon and his horses. The dairy.

Lessons: Care of milk. Milk products.
Pints and quarts. Abbreviations.
Memorization: 'Frozen Milk Bottles'

Activities: Illustrations of the milkman and his horses.
Making verses.
Working on costumes and properties for this scene of the play.
Stories.
Writing of first scene of play.

Problems III-IX were developed in a similar way about each of the characters in the play. When the scenes had been written, and the stage settings prepared, the actors were selected and the parts learned.

Problem X: The invitations:

- I. Whom to invite. Time and date.
- II. Learn how to write invitations, and how to treat visitors.

Culmination: The play
Exhibition of scrap books.
Exhibition of art, drawing and modelling.

Outcomes: Attitudes:

1. Appreciation of the dependence of the child upon the workers of the community.
2. Respect for the different types of workers that contribute to the child's welfare.
3. Friendliness towards people from other lands.
4. A realization of how the child himself can contribute to a better community.
5. Appreciation of the dignity of labor.

Habits:

1. Working with a clear definite purpose.
2. Planning an undertaking before attempting to carry it out.
3. Concentrating on the work in hand and persisting until it is accomplished.
4. Rendering service to others.
5. Courtesy in speech and action.
6. Working and playing harmoniously with others.
7. The ability to follow helpfully and to lead sympathetically.

Grade III (Miss C.L. Tyner)

Title: We Visit Kanda in the Congo.

Motivation: Some of the children had seen the picture, "Sanders of the River," when in Vancouver and were telling of the houses. Others brought pictures of pigmy huts. We decided to make the huts and learn about the boys and girls.

Main Problem: To find out how these boys and girls live, and to make one of their houses exactly as they would make it.

Subject-matter Outcomes:

Geography - How people in hot countries live.

Nature Study - Stories, pictures, and poems of some of the animals, birds and plants.

Language - Making stories from material gathered. Grades I and 2 read these stories.

The erection of the large house for play, the making of the jungle radio, and the construction of the individual houses were the most important activities in this Enterprise.

Attitudes and Appreciations:

Children very much interested in differences in food, clothing and shelter. Grasped readily the reasons in climate. Appreciated the fact that they were people like ourselves.

Bombo's Day (An Original Play)

Act I. Scene I. Early morning in front of Bombo's hut.

Mother: It is time to get up Bombo.

Bombo: Oh Dear, Oh Dear, I am so sleepy. It took so long to chase those elephants from the village garden last night.

Mother: But, my son, there is much work to do. You'll have to help plant a new garden. We need so much corn and manioc you know. And then you must help to dig the pit to catch at least one of the elephants.

Bombo: Perhaps a dip in the river will waken me. I'll run down.

Mother: Watch out for crocodiles, Bombo.

Scene II. Late afternoon. Bombo's mother and sister preparing the evening meal.

Kanda: How hot it has been today! I am sure Bombo and the others digging the pit will need a good supper.

Mother: Kanda, grind some manioc. I see there is none left in

this basket. I hope your father gets a good price for his palm oil down where the white men are. I would like some shiny bowls and pots such as the white people use.

Kanda: And I would like some red cloth for a new skirt, and many strings of red beads, and some earrings.

Mother: Do you suppose your father will remember to bring back some mosquito netting like that the English traveller had last year? Mosquitoes are worse than elephants I really believe.

Kanda: I think I hear the men coming back to the village. I had better hurry.

Mother: I hope they get an elephant. There is very little meat in this stew.

Enter Bombo (very tired)

Bombo: Is dinner ready? I could eat a raw hippopotamus.

Mother: You may just have to go down to the river and nibble at him if that trap is not a lucky one.

Kanda: Mother, shall I bring in some banana leaves for plates, and a large one for a table cloth?

Mother: If you please, Kanda.

Bombo: (Sits down to eat. His mother and sister bring him food.) Just the thing for a hungry man. What fine manioc.

Kanda: Bombo, the little children of the village made a verse about the elephant today. Would you like to hear it?

Bombo: Yes, Kanda. Just call them on the jungle radio.

Kanda does this. In come the children.

Bombo: That should bring us good luck. Listen. What is that? Oh, Ohhhhhh. It is. We've caught an elephant. We've caught an elephant. Come to the feast. Come to the feast.

Bombo rushes to his jungle radio and beats out the message. Then he says - "Come let us go. See the whole village moves toward the forest."

They all go out.

1. The first of these is the fact that the
 2. the second is the fact that the
 3. the third is the fact that the

4. The fourth is the fact that the
 5. the fifth is the fact that the

6. The sixth is the fact that the
 7. the seventh is the fact that the
 8. the eighth is the fact that the

9. The ninth is the fact that the
 10. the tenth is the fact that the

11. The eleventh is the fact that the
 12. the twelfth is the fact that the

13. The thirteenth is the fact that the
 14. the fourteenth is the fact that the

15. The fifteenth is the fact that the
 16. the sixteenth is the fact that the
 17. the seventeenth is the fact that the

18. The eighteenth is the fact that the
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 20. the twentieth is the fact that the

21. The twenty-first is the fact that the
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 23. the twenty-third is the fact that the

24. The twenty-fourth is the fact that the
 25. the twenty-fifth is the fact that the
 26. the twenty-sixth is the fact that the

27. The twenty-seventh is the fact that the
 28. the twenty-eighth is the fact that the
 29. the twenty-ninth is the fact that the

30. The thirtieth is the fact that the
 31. the thirty-first is the fact that the
 32. the thirty-second is the fact that the

33. The thirty-third is the fact that the
 34. the thirty-fourth is the fact that the
 35. the thirty-fifth is the fact that the

36. The thirty-sixth is the fact that the
 37. the thirty-seventh is the fact that the
 38. the thirty-eighth is the fact that the

39. The thirty-ninth is the fact that the
 40. the fortieth is the fact that the
 41. the forty-first is the fact that the

Grade IV (Miss J.R. Dickson)

Title: Outline of "Hans Andersen Enterprise."

Motivation: An incident in early life of Hans, given in the Grade IV Reader, was used as a starting point.

- Scope: 1. Reading. (Plenty of good reading was available.)
Fairy Tales. (Highest number read by any pupil was 15, lowest 3)
 Stories of the Vikings.
 Norse Tales.
2. Literature and Memory.
Beauty spots in certain of the Tales.
 Fairy Verses.
3. Music.
The Fairies.
 Discontented Duckling.
 At the Dance.
4. Physical Training.
Danish Fundamentals (seven).
 Danish Dances: Dance of Greeting.
 Children's Polka.
 Shoemaker's Dance.
 Crested Hen.
5. Language.
Oral - Reproducing Tales.
 Reports.
Written - Letter writing.
 Booklets: Plays.
 Life of Hans.
 Favorite Fairy Tale.
 Anniversary of Hans, etc.
 Verses for "Movie."
 Speeches for Puppet Show.
6. Geography.
 A very little about Denmark.
 Dairying.
7. History.
The Vikings.
 King Canute.
 Alfred and the Danes.
8. Art.
Painting for Movies.
 Illustrations for Booklet.

Outcomes: Attitudes

1. Appreciation of Andersen as a boy, laughed at and disregarded.
2. As a struggling young man - his fight against poverty and ridicule.
3. A transfer of this appreciation to people struggling under similar conditions today.

Characteristics.

1. Judgment in outlining a Booklet.
2. Resourcefulness or inventiveness in illustrating and arranging Booklet.
3. Cooperation in working out scenes for Puppet Shows, Pictures for Movies.

Grade V (Miss D. M. Harding)

Title: A Trip to Scotland.

Problem: To give travel talks about Scotland, and to entertain with Highland dances and songs.

Time: Eight weeks.

Procedure: Motivation - The enterprise was chosen by pupils.
 Prospects - Discussion, suggestion of trip, songs, etc.
 Preparation - (a) Collect information - one pupil visited steamship agents and obtained travel literature.
 (b) Books and pictures brought from home and libraries.

Scope:

- A. History -
1. Story of Scots and Scotland.
 2. Why it is part of Great Britain.
 3. The great heroes - Bruce, Wallace, Bonnie Prince Charlie, etc.
 4. Story of Mary, Queen of Scots.
 5. Religious history - St. Columba, John Knox, the Covenanters.
 6. History of clans, tartans and dress.
 7. Famous Scots - Livingstone, Watt, Mackintosh, etc.
 8. Scottish settlements in Canada:
 - (a) P.E.I.
 - (b) Glengarry, Ontario.
 - (c) Red River, Manitoba.
 - (d) Hebridean, Alberta.

B. Geography -

1. Trip from Edmonton to Glasgow.
2. Longitude and time.
3. Further study of temperate zone.
4. Scotland - surface, rivers, climate, resources industries, products, great centres,

islands, people.

5. P.E.I. - see details about study of Scotland.
6. Ontario "
7. Manitoba "
8. Maps: Scotland, Canada - P.E.I., Ontario, Manitoba.

C. Science-1. Manufacture of steel.

2. Ship-building.
3. Manufacture of rolled oats.
4. Study of soil - life of Crofters.
5. Birds, mammals and plants.
6. The thistle - in Scotland and Alberta.

D. Health Education-

1. Physical strength of Scots resulting from -
 - (a) Outdoor life.
 - (b) Plain food.
 - (c) Dancing and games.
2. Bones, joints, muscles.
3. Review of foods.
4. Study of digestive system, teeth.

E. Literature and Reading -

All suitable selections.

(a) Studies:

1. Life and work of Burns.
2. " " Scott.
3. " " Stevenson.
4. " " Barrie.
5. " " Carlyle.

(b) All supplementary reading of stories selected from above authors.

(c) Selections from Scott, Burns, and Stevenson for Verse Speaking.

F. Composition - Emphasis on brief, oral reports or talks.

1. Much study of descriptive paragraph.
2. Letter writing - requests for books.

G. Art -

1. Color theory.
2. Drawing and painting of scenes, historical or geographical, people at play.
3. Painting pictures of ships.
4. Design - using thistle.
5. Painting tartans, crests, and badges.
6. Printing.

H. Spelling - Words used commonly in Enterprise.

- I. Music - Suitable songs: Loch Lomond.
 Skye Boat Song.
 Scots Wha Hae.
 Mary of Argyll.
 Caller Herrin'.
 Auld Lang Syne.

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Ye Banks and Braes O' Bonnie Doon.
Road to the Isles.

- J. Dancing - Sword Dance.
Highland Schottische.
Highland Fling.

Exercises.

1. Maps.
2. Story of ships, through the ages, a movie reel.
3. The "Queen Mary."
4. Stories of various points of interest in Scotland.
5. Booklets -
 - (a) The Islands of Scotland.
 - (b) Famous Scotch writers.
 - (c) Collection of legends and folk tales.
6. Pictures.
7. "The Flying Scot" story and picture.
8. Travel talks.
9. Dramatization of historical scenes - also scenes from literature.
10. Model of castle.
11. Dances.

Outcomes. General.

1. Appreciation of Scottish history, and the part played by Scots in Canada's development.
2. Realization of factors which make Scotland's climate different from that of Alberta, although both are within same latitude.
3. Appreciation of Scottish life and character.

Particular.

1. Knowledge of longitude and time.
2. History of Scotland.
3. Story of tartans.
4. History of Red River Settlement.
5. Geography of Scotland.
6. Geography of P.E.I., Ontario, Manitoba.
7. Manufacture of steel and rolled oats.
8. Why the Clyde is a shipbuilding centre.
9. Knowledge of simple anatomy and digestive system.
10. Development of interest in the works of great Scotch writers.
11. Ability to give interesting oral reports.
12. Letter writing.
13. Knowledge of color theory.
14. Simple design.
15. Further development of "free expression" in large pictures.
16. Increased vocabulary.
17. Highland songs and dances.

Culmination.

1. Grades I, IV and VI entertained with Travel Talks, songs and dancing.
2. Movie of "Story of Ships" shown with explanatory talk.

Grade VI (Miss M.B. Ricker)

Title: A Trip to Mexico. Mexican Street Scene.

Motivation: Talks on Holiday Plans.

Travel Posters brought by the children.

Main Problem: To learn how people live in tropical countries. To find out how zones of vegetation may extend through Altitude as well as to depict Mexican life in animated and tableau form.

Learnings:

History - The Age of Discovery: Marco Polo, Diaz, Vasco da Gama, Columbus, Magellan, Drake, The Spanish Armada, Cortez, Aztec civilization, Conquest of Mexico, Gaining her Independence, The Republic To-day.

Geography - Mexico, Islands bordering the Spanish Main. Particular study of Climate. An excellent opportunity to study how certain factors influence climate.

Elementary Science - Water: its use in irrigation and exploring. Silver, sulphur, oil, precious stones - how mined. (Comparison with more modern methods.) Value. Use. Clay - its value in the making of pottery. Other types of soil - good and poor soils.

Health - Diseases of hot countries: malaria, cause and control. Adaptation of food, clothing, and shelter. Corn and beans as the staff of life. Value of fruits and vegetables in a warm climate.

Literature - Selections from Treasure Island. Captain Kidd and other stories of pirates, and sea stories. How the Buccaneers Began - The Spanish Main - Drake's Drum - Sea Gulls - Pirate don Durk of Dowdee - The Sea - They that go down to the Sea.

Language - Writing conversations - short plays - dramatizations - descriptive writing - vocabulary work (new words in connection with sea stories). A few common Spanish words. Suffixes and prefixes. Parts of speech. Phrases. Subjects and Predicates. Comparison. Verse Writing - Pirate and Sea ballads.

Physical Training - Stunts, games, dances on board ship.

Music - Spanish songs and Sea songs.

Arithmetic - Measuring distance on land and sea.
Rate of speed per hour. Graphs and charts.
Use of fractions in construction work.

Art - Design, Construction, Modelling, Printing
and Poster work. Simple Architecture.
(Use made of Aztec and Spanish forms.)

Particular Outcomes:

A feeling of appreciation and friendliness
toward people of other countries.
Increased skill in construction and design.
Increased love for adventure stories.
Increased knowledge of ancient civilization
and of how European civilization spread
westward. (Comparison of the old and the
new.)
Satisfies the feeling of longing for change
and adventure which most children and adults
have as holiday time draws near.

Activities: Maps of the country.
Graphs - size, population, exports.
Travel posters.
Animal Cut-outs for street scene. Animal
models.
Setting up a market.
Mexican scenes - animated or tableau form.
Decorated tiles - plaster of Paris.
Plaques - wood - Aztec designs.
Pottery Models - Aztec designs.
Construction of a Treasure chest.
A Freize - Conquest of Mexico by Cortez.
Costumes - Mexican characters - a pirate.
A Fiesta.
The Mexican Flag.
Free Expression.
Making Ballads - pirate stories.

Reading, Speech Training and Language entered largely into
all enterprises. There was also training in Arithmetic and
Music Appreciation and certain enterprises offered scope for
one or more phases of Physical Education.

Arithmetic: Fractions and Accuracy. Construction and
Design.
Percentage - Graphs.
English Money System - Calculating accounts.
Exchange - Canadian money to Mexican coins.
Measurements of length and surface - strip,
acre, rod, pole, perch, square yard, hide.
Manorial Estate.
Cord and Volume - pulp wood.

Some general outcomes: Stronger group spirit.

Self-reliance.

Initiative.

Muscular co-ordination.

Emotional control.

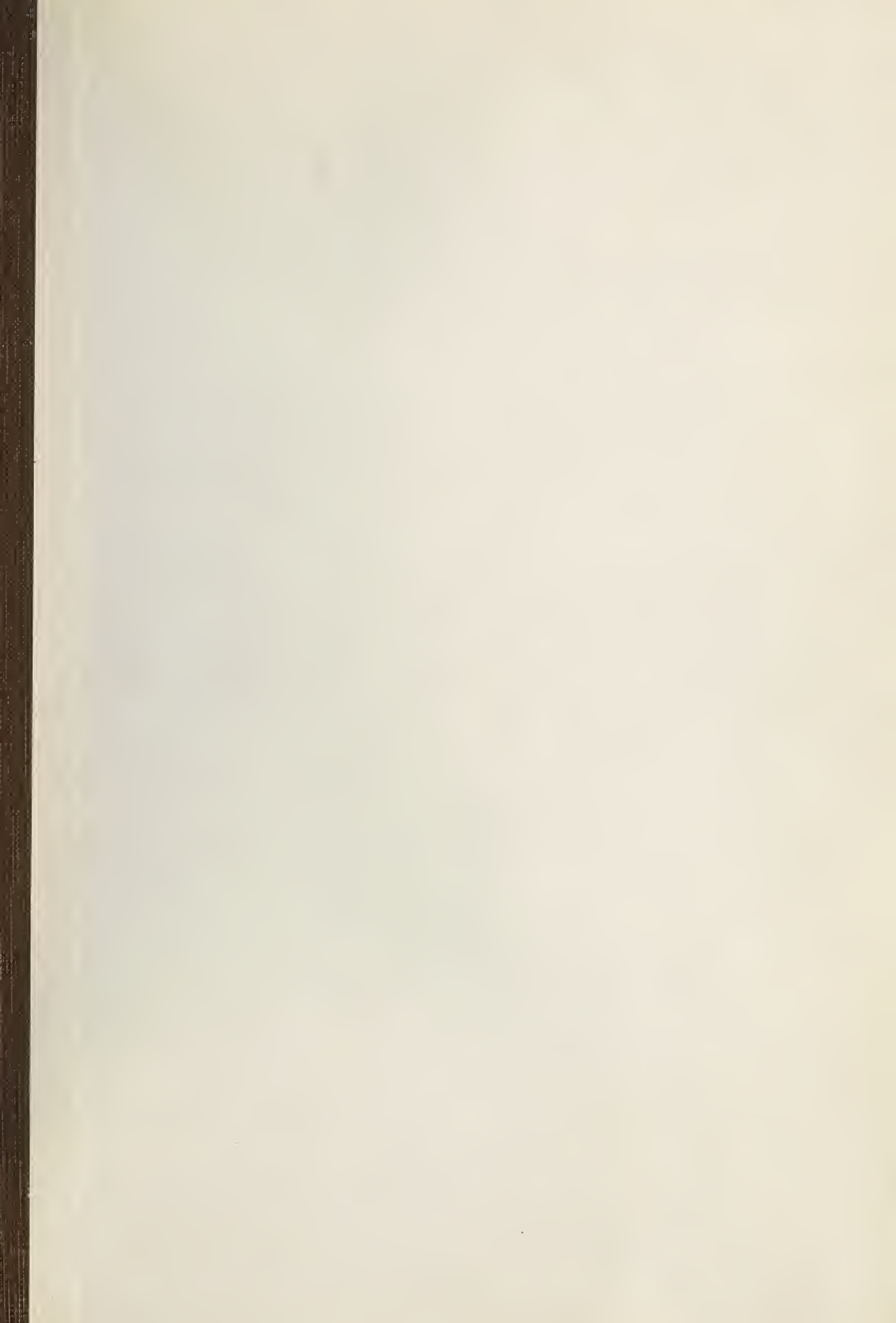
Love of the Beautiful in Art, Literature

Music and nature.

Originality:

Ability to express oneself in many ways - speech, writing, art, music, and construction.

Opportunity for both social and individual work, both so necessary for strong and vital education.



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